SOIL SURVEY
WALTON COUNTY
GEORGIA

HOW TO USE THE SOIL SURVEY REPORT

THIS SOIL SURVEY will serve various groups of readers. It will help farmers in planning the kind of management that will protect their soils and provide good yields; assist engineers in selecting sites for roads, buildings, ponds, and other structures; aid foresters in managing woodlands; and add to our knowledge of soil science.

Locating soils

Use the index to map sheets, at the back of this report, to locate areas on the detailed soil map. The index is a small map of the county that shows what part of the county is represented on each sheet of the detailed map. On the detailed map, the boundaries of the soils are outlined, and each kind of soil is identified by a symbol. For example, the symbol CdB2 identifies Cecil coarse sandy loam, 2 to 6 percent slopes, eroded. All areas marked with the same symbol are the same kind of soil. All of the kinds of soil shown on the detailed map are described in the section "Descriptions of the Soils."

Finding information

Different sections of this report will interest different groups of readers. The "Guide to Mapping Units" at the back of the report can help the reader to use the map and the report. This guide lists each soil and land type mapped in the county, and the page where each is described. It also lists, for each soil and land type, a capability unit and a woodland suitability group, and the page where each of these is described.

Farmers and those who work with farmers can learn about the soils in the section "Descriptions of the Soils." In the section "How to Use and Manage the Soils," they can learn about management and sandy loam, 2 to 6 percent slopes, eroded, is in capability unit IIe–2. Suggestions for management of this soil are given in the discussion of capability unit IIe–2. Further help in planning management for a farm can be obtained from the local representative of the Soil Conservation Service, from the county agricultural agent, and from the staff of the State agricultural experiment station.

Foresters and others interested in woodland can refer to the part "Use of the Soils for Woodland," where the soils are grouped according to their suitability for specified kinds of trees and the factors affecting management of woodland are explained.

Sportsmen and others interested in wildlife can find in the section "Wildlife and Fish" information about the food and habitat preferences of the more common kinds of wildlife in the county.

Engineers and builders will want to refer to the section "Engineering Characteristics of the Soils."

People interested in science can learn how the soils were formed and how they are classified by reading the section "Genesis, Morphology, and Classification of the Soils."

Newcomers in Walton County and others who are not familiar with the county will be interested in "General Nature of the Area," which discusses geology, climate, and other topics; "General Soil Map," which describes the broad pattern of the soils; and "Additional Facts About the County," which gives miscellaneous information.

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Fieldwork for this survey was completed in 1961. Unless otherwise indicated, all statements in the report refer to conditions in Walton County at that time. The

Contents

SOIL SURVEY OF WALTON COUNTY, GEORGIA

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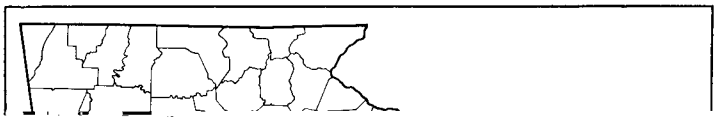
UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, IN COOPERATION WITH THE UNIVERSITY OF GEORGIA, COLLEGE OF AGRICULTURE, AGRICULTURAL EXPERIMENT STATIONS

WALTON COUNTY is in the north-central part of Georgia (fig. 1). It measures 23 miles from east to



General Nature of the Area

This section discusses the geology, drainage, physiography, water supply, and climate of Walton County.

Geology, Drainage, and Physiography

the coldest weather. Table 1 gives additional temperature data for the county.

The weather in spring is usually windy and wet but changes frequently and abruptly. It is usually cooler than the weather in autumn. Mild, sunny weather for

miles per hour in August to almost 11 miles per hour in February and March. The winds are generally from the northeast or northwest in fall and winter and are variable or southerly in spring and summer.

Because of the range in rainfall, temperature, wind, and humidity, the climate is ideal for the growing of many different crops. The soils are usually wet throughout the winter and early in spring. Nevertheless, they dry out soon enough to permit tillage.

Except for small grain, clover, and grass, crops are usually planted and become established in April, May, and June. During these months, the moisture content is such that fieldwork is feasible and seeds can germinate. As a rule, moisture conditions in fall are favorable for preparation of a seedbed and germination of plants. When there is little rain during the fall months, germination is retarded and preparation of a seedbed is difficult in the less friable soils.

The growing season, or frost-free period, in this county is long enough that cotton, corn, grain sorghum, millet, tomatoes, watermelons, beans, potatoes, and similar crops can be planted over a period of many weeks and still have time to mature. Winter is mild enough that small grain sown in the fall will survive. Small grain seeded early provides grazing for livestock during the winter, although it grows slowly from November 20 to February 20.

Tall fescue, clover, and other perennial pasture plants grow during winter when the temperature is above 40°F. Normally, the temperature is low enough for long enough periods to allow peaches and similar crops to have a dormant season.

TABLE 2.—*Average number of days per year (by month) with rainfall equal to or greater than stated amounts*

[Based on records from nearby stations of the U.S. Weather Bureau for 10-year period—1951 through 1960]

Rainfall equal to or greater than—	Average number of days in—												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
0.10 inch	6	7	8	6	6	6	8	4	5	4	6	6	72
0.25 inch	5	6	6	4	4	4	5	3	4	3	4	4	52
0.50 inch	3	3	5	2	2	2	3	1	2	2	2	3	30

TABLE 3.—*Number of days in 10 years (by month) with rainfall equal to or greater than stated amounts*

[Based on records from nearby stations of the U.S. Weather Bureau]

Rainfall equal to or greater than—	Total number of days in—												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	10-Year Period
1 inch	19	14	13	9	8	5	8	8	11	3	2	8	108
2 inches	0	0	4	3	1	0	0	0	3	1	0	2	14
3 inches	0	0	1	1	0	0	0	0	0	0	0	0	2
4 inches	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 4.—*Number of 2-, 4-, and 6-week periods in which no day has 0.25 inch or more of precipitation*

[Based on records from nearby stations of the U.S. Weather Bureau]

Periods equal to or greater than—	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	10-Year Period
2 weeks	4	4	2	7	8	7	4	11	7	8	7	6	75
4 weeks	1	0	0	1	4	2	1	1	2	2	1	0	15
6 weeks	0	0	0	0	1	0	0	0	0	0	0	0	1

TABLE 5.—*Probabilities of last freezing temperature in spring and first in fall*

[Based on records from nearby stations of the U.S. Weather Bureau]

series. The difference in the texture of their surface layers is apparent from their names.

Some soil types vary so much in slope, degree of erosion, number and size of stones, or some other feature

scientists adjust the groups according to the results of their studies and consultation. Thus, the groups that are finally evolved reflect up-to-date knowledge of the soils and their behavior under present methods of use and management.

General Soil Map

After study of the soils in a locality and of the way they are arranged, it is possible to make a general map that shows several main patterns of soils, called soil associations. Such a map is the colored general soil map in the back of this report. Each association, as a rule, contains a few major soils and several minor ones in a pattern that is

Most of this association is severely eroded, but a large acreage is only moderately eroded. In the severely eroded places, all or nearly all of the original surface layer is gone and material from the subsoil, which is sandy clay loam to clay, is exposed.

Except in areas that are only moderately eroded, tilth is likely to be poor. The soils, in general, respond to good management and are suited to a wide range of crops. Some of the common crops are cotton, corn, small grains, tall fescue, white clover, and Coastal bermudagrass. Cultivated crops are grown mainly on the broad, smooth ridges. Most of the once-cropped steeper slopes and adjacent draws are now in pine or in improved pasture. Some of the steepest slopes have never been cleared; they support mixed stands of hardwoods and pine. Most of the soils

and they have more distinct horizons than Louisburg soils. Small areas of somewhat poorly drained Colfax soils and poorly drained Worsham soils are in depressions, near the head of drains, and along the base of slopes. Areas of well-drained Local alluvial land are along drainageways.

Much of this association is eroded. In some places, all or nearly all of the original surface layer is gone and the subsoil is exposed.

This association does not have high agricultural poten-

4. Lloyd-Davidson association

Deep, well-drained soils with dark-red subsoil, on very gently sloping to steep uplands

This association is characterized by narrow to fairly broad, very gently sloping to gently sloping ridgetops, moderately steep to steep side slopes, and numerous small drainageways. It occurs chiefly in the north-central part of the county and makes up about 5 percent of the total

Also in this association are well-drained Cecil and Lloyd soils, somewhat poorly drained Colfax soils, and well-drained Local alluvial land. Together they make up about 15 percent of the association. Cecil and Lloyd soils are redder than Appling and Louisburg soils. Colfax soils in this association are in depressions, near the head of drains, and along the base of slopes. Local alluvial land is along drainageways.

Appling soils, which are on the smooth, sloping ridges, are intensively cultivated or in pasture. These soils are generally in good tilth, and they respond well to management. They are suited to a fairly wide range of crops, including cotton, corn, tall fescue, and Coastal bermudagrass. Most of the ridges are eroded. In some places, all or nearly all of their original surface layer is gone and the mottled subsoil is exposed.

The steep, stony Louisburg soils have never been cleared and are better suited to trees than to cultivated crops or pasture. They support mixed stands of hardwoods and pine.

Most of the soils in this association are in capability classes II and VII. Average-sized general farms, most of them operated by tenants, predominate.

Descriptions of the Soils

This section describes in detail the soils in Walton County and discusses their use and suitability for agriculture. Descriptions of the soil series, arranged in alphabetic order, give the characteristics that are common to all the soils in each series. Descriptions of the mapping units give the characteristics that differentiate types and phases within each series.

The first soil described in each series is the one most nearly typical of the series. The profile of this first mapping unit is representative of all the soils of the series. Differences in surface texture, in slope, and in degree of erosion are evident from the names of the mapping units. The section "Genesis, Morphology, and Classification of the Soils" describes in more detail a soil profile for each series.

Some technical terms are used in the descriptions of soil series and mapping units because nontechnical terms cannot convey precisely the same meaning. Some of these technical terms are defined in the Glossary, and some are defined in the section "How Soils Are Mapped and Classified."

The soil map at the back of this report shows the location and distribution of the individual soils. Table 6 gives the approximate acreage and proportionate extent of the soils.

TABLE 6.—*Approximate acreage and proportionate extent of the soils*

Soil	Acres	Percent	Soil	Acres	Percent
Alluvial land	2,730	1.3	Chewacla silt loam	3,370	1.6
Alluvial land, moderately wet	8,000	3.8	Colfax sandy loam, 2 to 6 percent slopes	650	.3
Alluvial land, wet	4,415	2.1	Colfax sandy loam, 6 to 10 percent slopes, eroded	120	.1
Altavista fine sandy loam, 2 to 6 percent slopes	550	.3	Davidson loam, 2 to 6 percent slopes, eroded	455	.2
Appling coarse sandy loam, 0 to 2 percent slopes	95	(1)	Davidson loam, 6 to 10 percent slopes, eroded	210	.1
Appling coarse sandy loam, 2 to 6 percent slopes	390	.2	Davidson clay, 2 to 6 percent slopes, severely eroded	470	.2
Appling coarse sandy loam, 2 to 6 percent slopes, eroded	17,400	8.2	Davidson clay, 6 to 10 percent slopes, severely eroded	495	.2
Appling coarse sandy loam, 6 to 10 percent slopes, eroded	10,930	5.2	Davidson clay, 10 to 15 percent slopes, severely eroded	265	.1
Appling coarse sandy loam, 10 to 15 percent slopes, eroded	550	.3	Durham loamy coarse sand, 0 to 2 percent slopes	145	.1
Appling sandy clay loam, 2 to 6 percent slopes, severely eroded	1,465	.7	Durham loamy coarse sand, 2 to 6 percent slopes	1,835	.9
Appling sandy clay loam, 6 to 10 percent slopes, severely eroded	3,760	1.8	Gullied land	30	(1)
Appling sandy clay loam, 10 to 15 percent slopes, severely eroded	610	.3	Lloyd sandy loam, 2 to 6 percent slopes, eroded	2,495	1.2
Augusta fine sandy loam	200	.1	Lloyd sandy loam, 6 to 10 percent slopes, eroded	1,195	.6
Cecil coarse sandy loam, 2 to 6 percent slopes	420	.2	Lloyd sandy loam, 10 to 15 percent slopes, eroded	415	.2
Cecil coarse sandy loam, 2 to 6 percent slopes, eroded	16,995	8.0	Lloyd sandy loam, 15 to 25 percent slopes, eroded	535	.2
Cecil coarse sandy loam, 6 to 10 percent slopes, eroded	4,925	2.3	Lloyd clay loam, 2 to 6 percent slopes, severely eroded	3,290	1.5
Cecil coarse sandy loam, 10 to 15 percent slopes, eroded	2,490	1.2	Lloyd clay loam, 6 to 10 percent slopes, severely eroded	4,560	2.2
Cecil coarse sandy loam, 15 to 25 percent slopes, eroded	1,225	.6	Lloyd clay loam, 10 to 15 percent slopes, severely eroded	2,625	1.2
Cecil sandy clay loam, 2 to 6 percent slopes, severely eroded	28,280	13.4	Lloyd clay loam, 15 to 25 percent slopes, severely eroded	755	.4
Cecil sandy clay loam, 6 to 10 percent slopes, severely eroded	35,500	16.8	Lloyd clay loam, 25 to 45 percent slopes, severely eroded	130	.1
Cecil sandy clay loam, 10 to 15 percent slopes, severely eroded	15,625	7.4	Lloyd stony loam, 10 to 25 percent slopes	120	.1
Cecil sandy clay loam, 15 to 25 percent slopes, severely eroded	1,305	.6	Lloyd-Gullied land complex, 6 to 10 percent slopes	215	.1
Cecil-Gullied land complex, 6 to 10 percent slopes	1,075	.5	Lloyd-Gullied land complex, 10 to 15 percent slopes	215	.1
Cecil-Gullied land complex, 10 to 15 percent slopes	535	.2	Local alluvial land	3,645	1.7

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TABLE 6.—*Approximate acreage and proportionate extent of the soils*—Continued

Soil	Acres	Percent	Soil	Acres	Percen
Louisa fine sandy loam, 15 to 45 percent slopes	535	.2	Madison sandy clay loam, 6 to 10 percent slopes, severely eroded	940	.4
Louisburg loamy coarse sand, 2 to 6 percent slopes	1,080	.5	Madison sandy clay loam, 10 to 15 percent slopes, severely eroded	730	.3
Louisburg loamy coarse sand, 6 to 10 percent slopes	3,960	1.9	Madison sandy clay loam, 15 to 25 percent slopes, severely eroded	225	.1
Louisburg loamy coarse sand, 10 to 15 percent					

available moisture capacity is moderately high, and surface runoff is medium.

This soil is suited to a wide range of crops. It responds to management, especially to fertilization, and it is well suited to moderately intensive use. Most of the acreage has been cultivated. At present, about 60 percent is cultivated or used as pasture, and the rest is in forest or is idle. Erosion is a slight to moderate hazard in cultivated areas. (Capability unit IIe–2; woodland group 3.)

Appling Series

The Appling series consists of deep, well-drained soils that formed on uplands in material weathered from granite, gneiss, and coarse-grained schist. Where they are not severely eroded, these soils have a surface layer of light brownish-gray, light olive-brown, or light yellowish-brown coarse sandy loam. The upper part of the subsoil is yellowish-brown sandy clay loam. The lower part, below a depth of 17 inches, consists of mottled, red, yellowish-red, and olive-yellow clayey material. Severely eroded Appling soils have a surface layer of brownish-

low. The plow layer is in good tilth, except in the severely eroded areas. Permeability is moderately slow, the rate of infiltration is moderate, the available moisture capacity is moderately high, and surface runoff is medium.

This soil is well suited to moderately intensive use. It responds to management, especially to fertilization, and it is suited to a wide range of crops. Most of the acreage has been cropped, chiefly to cotton and corn. At present,

Appling coarse sandy loam, 10 to 15 percent slopes, eroded (AxD2).—The surface layer of this soil consists of light olive-brown to light yellowish-brown coarse sandy loam. The upper part of the subsoil is yellowish-brown sandy clay loam. The lower part, below a depth of about 17 inches, consists of mottled, red, yellowish-red, and olive-yellow clayey material.

Unlike Appling coarse sandy loam, 2 to 6 percent slopes,

most severely eroded areas, the mottled, red, yellowish-red, and olive-yellow clayey subsoil material is at the surface.

Because of the slope and the slow rate of infiltration, surface runoff is moderately rapid. Erosion is a severe hazard in cultivated areas. Tilth is poor. Nevertheless, if well managed, this soil can be cultivated occasionally. It is well suited to permanent pasture and to pine forest. About 55 percent of the acreage is in forest. The rest is cultivated, or is used as pasture, or is idle. (Capability unit IVe–1; woodland group 4.)

Appling sandy clay loam, 10 to 15 percent slopes, severely eroded (AnD3).—The 5- to 7-inch plow layer of this soil is brownish-yellow to light-red sandy clay loam. This layer is a mixture of remnants of the original surface layer and material from the upper part of the subsoil. In the most severely eroded areas, the mottled, red, yellowish-red, and olive-yellow clayey subsoil material is at the surface.

Because of the strong slope and the slow rate of infiltration, surface runoff is rapid. Erosion is a severe hazard. The available moisture capacity is moderately low. Tilth is poor. Consequently, this soil is not suitable for cultivation. It is suitable for permanent pasture or for pine forest. About 70 percent of the acreage is in forest. The rest is cultivated, or is used as pasture, or is idle. (Capability unit VIe–2; woodland group 4.)

Augusta Series

The Augusta series consists of deep, somewhat poorly drained soils that developed in old alluvium on low, nearly level stream terraces. These soils have a surface layer of light olive-brown to dark grayish-brown fine sandy loam over a thin layer of pale-yellow sandy loam. The subsoil is mottled, pale-yellow and light-gray sandy clay loam to sandy clay.

The slope range is 0 to 2 percent. The vegetation is chiefly sweetgum, pine, alder, blackgum, willow, and oak.

The reaction is very strongly acid. Natural fertility is low, and the organic-matter content is low. The root zone is shallow. Permeability is slow in the subsoil.

Augusta soils occur with Chewacla and Wickham soils. They have more distinct horizons than Chewacla soils, which are on flood plains, and they are more poorly drained, grayer, and more mottled than Wickham soils.

In this county, Augusta soils occur as small areas, chiefly along the larger streams. The total acreage is

The reaction is very strongly acid. Natural fertility is low, and the organic-matter content is low. The plow layer is in good tilth. Permeability is slow, the rate of infiltration is moderate, the available moisture capacity is high, and runoff is slow. The water table is at or near the surface most of the time.

Slow permeability and the high water table restrict the depth to which roots can grow and thereby limit the range of suitable crops. About 60 percent of the acreage is in forest. The rest is cultivated, or is used as pasture, or is idle. (Capability unit IIIw–3; woodland group 8.)

Cecil Series

The Cecil series consists of deep, well-drained soils that formed on uplands in material weathered from gneiss, gneissoid schist, mica schist, and granite. Where they are not severely eroded, these soils have a surface layer of light yellowish-brown to brown coarse sandy loam and, at a depth of about 10 inches, a layer of yellowish-red to red sandy clay to clay. Severely eroded or very severely eroded Cecil soils have a surface layer of reddish-brown to red sandy clay loam.

The depth to bedrock ranges from 3 to 30 feet, but it is commonly less than 10 feet. The slope range is 2 to 25 percent, but a major part of the acreage has a slope of between 2 and 15 percent. The vegetation is chiefly white oak, post oak, red oak, blackjack oak, and hickory. Some blackgum, dogwood, sourwood, sweetgum, yellow-poplar, and shortleaf pine are also present.

The reaction is strongly acid to very strongly acid. Natural fertility is low, and the organic-matter content is low. Permeability is moderate.

Cecil soils occur with Appling, Madison, Lloyd, and Louisburg soils. They have a redder subsoil than Appling soils; are less micaceous, especially in the surface layer, than Madison soils; are less red in the subsoil than Lloyd soils; and are deeper and have more distinct horizons than Louisburg soils.

Large areas of Cecil soils are scattered throughout the county. The total acreage is about 50 percent of the county. Of this, about half is cultivated or is used as pasture. Shortleaf, loblolly, and Virginia pine grow in areas formerly cultivated but now abandoned.

Cecil coarse sandy loam, 2 to 6 percent slopes, eroded (CdB2).—This is a deep, well-drained soil on the uplands. It has a firm, red clayey subsoil. The major horizons

The reaction is strongly acid to very strongly acid. Natural fertility is low, and the organic-matter content is low. The plow layer is in good tilth. The root zone is [redacted]

Cecil coarse sandy loam, 15 to 25 percent slopes, eroded (CdE2).—The surface layer of this soil commonly is yellowish brown but ranges from light yellowish brown [redacted]

brown to yellowish-red sandy clay loam. It is from 5 to 7 inches thick, and it consists of remnants of the original surface layer mixed with material from the upper part of the subsoil. In the most severely eroded places, the red clayey subsoil is at the surface.

Because of the strong slope and the slow rate of infiltration, surface runoff is very rapid and the erosion hazard is severe. The available moisture capacity is low. Tilth is poor. Consequently, this soil is not suited to cultivation. It is best suited to pine. About 80 percent of the acreage is in forest or is idle; the rest is cultivated or is used as pasture. (Capability unit VIIe–1; woodland group 4.)

Cecil-Gullied land complex, 6 to 10 percent slopes (CZC4).—The surface layer of this mapping unit is yellowish-red to red sandy clay loam. The original surface layer and some of the subsoil have been removed by erosion or by some other means. The remaining subsoil ranges in thickness from about 10 inches to as much as 30 inches, but in most places it is about 18 inches thick. Partly weathered rock is exposed in some small spots. Some shallow gullies and a few deep ones have formed (fig. 6).

Figure 6.—**Area of Cecil-Gullied land complex, 6 to 10 percent slopes. Careful management is required to establish vegetation on this complex.**

a severe erosion hazard, this complex is not suited to clean-tilled crops. It is best suited to pine. About 95 percent of the acreage is in pine forest. The rest is idle. (Capability unit VIIe–1; woodland group 4.)

Chewacla Series

The Chewacla series consists of deep, somewhat poorly drained soils on first bottoms. These soils were derived from recent alluvium washed from Appling, Cecil, Madison, Lloyd, Louisburg, and other soils on the uplands. The surface layer is brown to reddish-brown silt loam. It overlies mottled gray silt loam or silty clay loam.

The slope range is 0 to 2 percent. The vegetation is chiefly sweetgum, water oak, white oak, willow, and elm.

The reaction is very strongly acid. Natural fertility is low, and the organic-matter content is medium. Permeability is moderate to moderately slow, the rate of infiltration is moderate, and the available moisture capacity is high.

Chewacla soils occur with Wehadkee soils, which are on flood plains, and with Augusta soils, which are on adjacent low stream terraces. Chewacla soils are better drained than Wehadkee soils, and they have a browner surface layer; they have less distinct horizons than Augusta soils.

In this county, Chewacla soils occur as relatively small areas along both small and large streams. The total acreage is about 1.5 percent of the county. About 70 percent of this is in forest or is idle, and the rest is cultivated or is used as pasture.

Chewacla silt loam (0 to 2 percent slopes) (Csl).—This

that are subject to frequent overflow. The major horizons are—

0 to 15 inches, brown to strong-brown silt loam; slightly sticky when wet.
15 to 36 inches +, mottled, gray, brownish-yellow, and yellowish-red silty clay loam; sticky when wet.

The color of the surface layer ranges from brown to reddish brown. The depth to mottling ranges from 10 to 18 inches, but it is ordinarily about 15 inches. The texture of the subsurface layer is silt loam or silty clay loam. In some places, there are layers of loamy sand and sandy loam at a depth of about 18 inches.

The plow layer is in good tilth. Natural fertility is low

and olive sandy clay loam to sandy clay that is mottled below a depth of about 12 inches.

The depth to bedrock ranges from 4 to 20 feet, but it is commonly less than 10 feet. The slope ranges is 2 to 10

Davidson Series

The Davidson series consists of deep, well-drained soils that formed on uplands in material weathered from diorite

This soil is generally in good tilth. It has a thick root zone. Permeability is moderate, and the available moisture capacity is moderately high. Because of the slope, surface runoff is moderately rapid in cultivated areas, and erosion is a moderate to severe hazard.

Some areas are severely eroded. In these, the plow layer is clay, moisture infiltrates slowly, and tilth is poor.

If well managed, this soil is suitable for cultivation. It is suited to a wide range of crops. About 15 percent of the acreage is cultivated or is used as pasture; the rest is wooded or is idle. (Capability unit IIIe–1; woodland group 2.)

Davidson clay, 2 to 6 percent slopes, severely eroded (DpB3).—This soil is dusky-red to dark-red clay to a depth of more than 36 inches. Because of the slope and the slow rate of infiltration, surface runoff is medium to moderately rapid, and erosion is a moderate to severe hazard. Tilth is poor. Nevertheless, under good management, this soil is suited to a fairly wide range of crops. About half of the acreage is cultivated or is used as pasture, and the rest is wooded or is idle. (Capability unit IIIe–1; woodland group 4.)

Davidson clay, 6 to 10 percent slopes, severely eroded (DpC3).—This soil is dark-red to dusky-red clay to a depth of more than 36 inches. A few shallow gullies have formed in some places.

Because of the slope and the slow rate of infiltration, surface runoff is moderately rapid, and the erosion hazard is severe in cultivated areas. Tilth is poor. Nevertheless, if well managed, this soil can be cultivated occasionally. It is well suited to permanent pasture and

Durham soils occur with Appling, Louisburg, and Colfax soils. They are browner and less mottled in the subsoil than Appling soils; they have more distinct horizons than Louisburg soils and are deeper; and they are better drained than Colfax soils.

Small areas of Durham soils are scattered throughout this county. The larger of these areas are around Youth and Good Hope. The total acreage is about 1 percent of the county. Of this, about 60 percent is cultivated or is used as pasture.

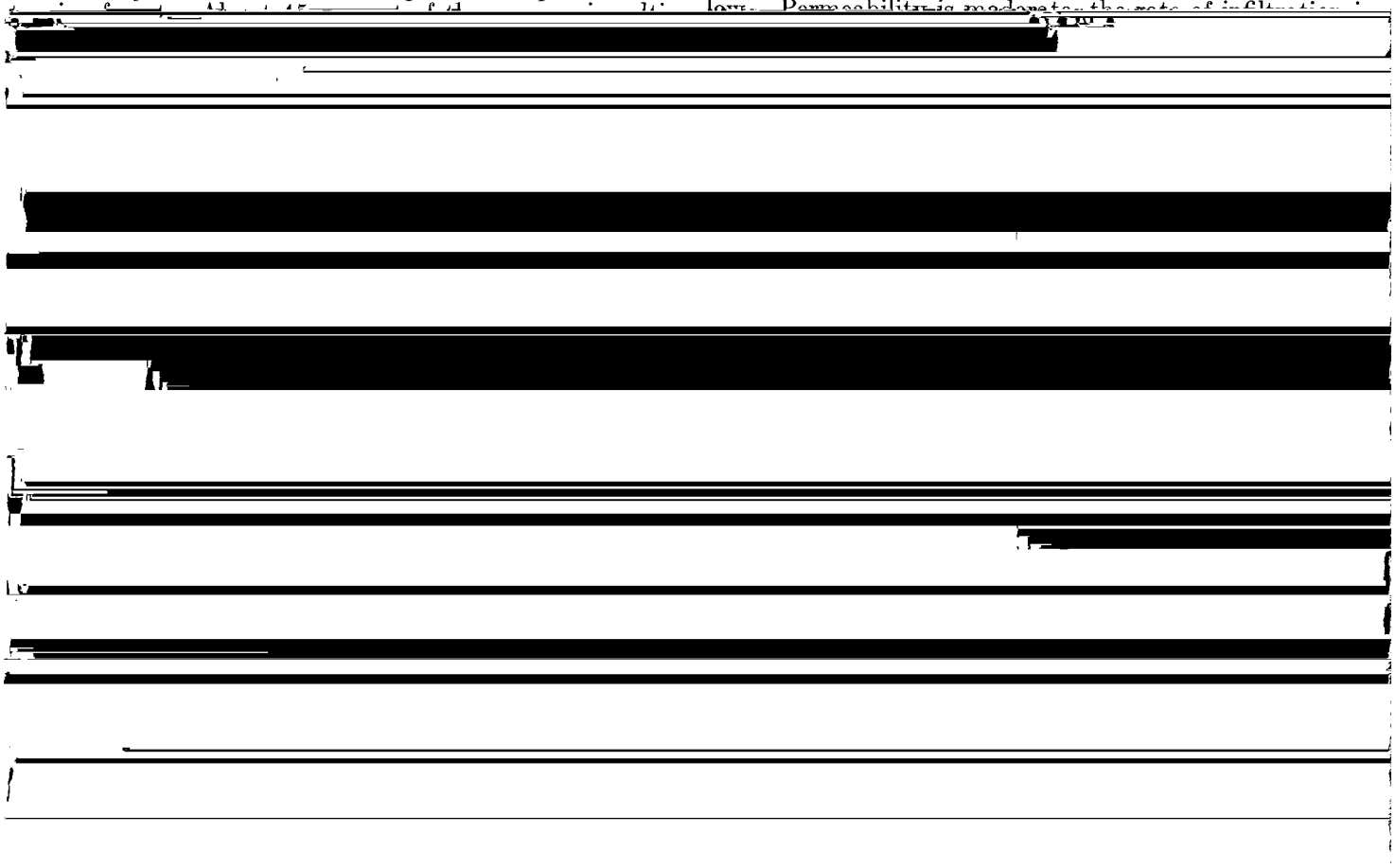
Durham loamy coarse sand, 2 to 6 percent slopes (DjB).—This is a deep, well-drained soil on the uplands. The major horizons are—

0 to 13 inches, pale-olive, loose loamy coarse sand; the lower few inches is commonly light yellowish-brown coarse sandy loam.
13 to 23 inches, light olive-brown, friable sandy clay loam; moderate, medium, angular and subangular blocky structure; weak structure in uppermost few inches.
23 to 44 inches, mottled, firm sandy clay; moderate, medium, angular and subangular blocky structure.
44 to 48 inches +, mottled, olive-yellow, red, and light-gray, firm sandy clay loam; weak, subangular blocky structure.

The color of the surface layer ranges from pale olive and light brownish gray to light yellowish brown. Numerous small, angular, quartz pebbles are scattered on the surface in a few places.

Some small areas of sandy loam and coarse sandy loam are mapped with this soil.

The reaction is medium acid to very strongly acid. The plow layer is in good tilth. The root zone is deep. Natural fertility is low, and the organic-matter content is



form an intricate pattern. In many places these gullies have cut into the weathered mica schist, granite, or gneiss. The soil material remaining between the gullies is commonly sandy clay loam or clay loam, mainly from the lower part of the original subsoil. The slope range is 6 to 15 percent.

Figure 7.—**Area of Gullied land; terrace water discharged on unprotected soil formed this gully.**

The reaction is strongly acid to extremely acid. Tilth is poor. The organic-matter content and the supply of available plant nutrients are low. Permeability is slow, the rate of infiltration is slow, the available moisture capacity is low, and surface runoff is very rapid.

This land type is not suitable for cultivation. Establishing any type of vegetation on this land requires great care and skill. (Capability unit VIIe–4.)

Natural fertility is low, and the organic-matter content is low. Permeability is moderate.

Lloyd soils occur with Davidson, Cecil, and Madison soils. They have a darker red subsoil than Cecil soils, which formed from acidic rocks; they have a more sandy surface layer and a lighter red subsoil than Davidson soils, which formed primarily from basic rocks; and they are much less micaceous throughout the profile than Madison soils.

Large areas of Lloyd soils are scattered throughout this county. The total acreage is about 8 percent of the county. About 30 percent of this is cultivated or is used as pasture. Shortleaf pine, loblolly pine, and Virginia pine grow in areas formerly cultivated but now abandoned.

Lloyd sandy loam, 2 to 6 percent slopes, eroded (LdB2).—This is a deep, well-drained soil on the uplands. The major horizons are—

0 to 7 inches, reddish-brown, friable sandy loam.
7 to 14 inches, reddish-brown, friable sandy clay loam; weak, subangular blocky structure.
14 to 30 inches, dark-red, firm silty clay; moderate, medium, angular and subangular blocky structure.
30 to 37 inches, red to dark-red, firm sandy clay loam; moderate, medium, subangular blocky structure.
37 to 63 inches +, red and brownish-yellow, friable sandy loam.

The surface layer ranges from dark reddish brown to reddish brown. The subsoil ranges from reddish brown to red and dark red. The texture is sandy clay loam or clay loam in the uppermost part and clay or clay loam in the lower part. Numerous small, angular, quartz pebbles are scattered on the surface in a few places. Some areas are severely eroded. In these, the plow layer is reddish-brown to dark-red clay loam.

Some areas of gravelly sandy loam and fine sandy loam are mapped with this soil.

The reaction is strongly acid to very strongly acid. The plow layer is in good tilth, except in severely eroded places. The root zone is deep. Natural fertility is low, and the organic-matter content is low. Permeability is moderate, the rate of infiltration is moderate, the available moisture capacity is moderately high, and surface runoff is medium.

This soil is suited to a wide range of crops. It responds to good management, especially to fertilization, and it is well suited to moderately intensive use. Most of the acreage has been cropped, chiefly to cotton and corn. About 50 percent is now cultivated or is used as pasture, and the rest is wooded or is idle. Erosion is a slight to

ability, a thick root zone, and a moderately high available moisture capacity. About 15 percent of the acreage is cultivated or is used as pasture. The rest is wooded or is idle. (Capability unit IIIe–1; woodland group 2.)

Lloyd sandy loam, 10 to 15 percent slopes, eroded (LdD2).—The surface layer of this soil, to a depth of about 7 inches, is reddish-brown to dark reddish-brown sandy loam. The color of the subsoil ranges from red and dark red to reddish brown. The texture is sandy clay loam or clay loam in the uppermost part and clay or clay loam in the lower part.

Unlike Lloyd sandy loam, 2 to 6 percent slopes, eroded, this soil is poorly suited to frequent cultivation. Because of the slope, surface runoff is moderately rapid in cultivated fields and the erosion hazard is severe. Some places are severely eroded. In these, the plow layer is clay loam, tilth is poor, and infiltration is slow.

If well managed, this soil can be cropped occasionally. About 75 percent of the acreage is in forest. The rest is cultivated, or is used as pasture, or is idle. (Capability unit IVe–1; woodland group 2.)

Lloyd sandy loam, 15 to 25 percent slopes, eroded

vated or is used as pasture, and the rest is wooded or is idle. (Capability unit IVe–1; woodland group 4.)

Lloyd clay loam, 10 to 15 percent slopes, severely eroded (LeD3).—The 5- to 7-inch surface layer of this soil is reddish-brown to dark-red clay loam. It consists of remnants of the original surface layer mixed with material from the upper part of the subsoil. In the most severely eroded places, the red or dark-red clayey subsoil is at the surface. A few shallow gullies have formed in some areas.

Because of the strong slope and the slow rate of infiltration, surface runoff is rapid and the erosion hazard is severe. The available moisture capacity is moderately low. Tilth is poor. Consequently, this soil is not suited to frequent cultivation. It is well suited to permanent pasture and to pine forest. About 80 percent of the acreage is wooded or is idle; the rest is cultivated or is used as pasture. (Capability unit IVe–1; woodland group 4.)

Lloyd clay loam, 15 to 25 percent slopes, severely eroded (LeE3).—The 5- to 7-inch surface layer of this soil is reddish-brown to dark-red clay loam. It consists of remnants of the original surface layer mixed with

mainly in the western part. The total acreage is about 8 percent of the county. Less than 20 percent of this is cultivated or is used as pasture.

Louisburg loamy coarse sand, 2 to 6 percent slopes (LCB).—This is a moderately deep to shallow, somewhat excessively drained soil on the uplands. The major horizons are—

0 to 7 inches, light-gray, loose loamy coarse sand.
7 to 33 inches, light yellowish-brown, loose loamy coarse sand.
33 inches +, light-colored, partly disintegrated parent rock.

The depth to bedrock ranges from 13 to 48 inches. In some places, a 6- to 10-inch layer of variegated yellowish-red, brownish-yellow, or yellow sandy clay loam or sandy clay is directly over bedrock, generally about 24 to 30 inches below the surface. There are few rock outcrops.

Some small areas of sandy loam and coarse sandy loam are mapped with this soil.

The reaction is strongly acid to very strongly acid. The plow layer is in good tilth. Natural fertility is low, and the organic-matter content is low. Permeability is rapid, the rate of infiltration is rapid, and surface runoff is medium.

This soil is suited to cultivation if well managed. A low available moisture capacity and a shallow root zone limit the range of suitable crops. Erosion is a hazard in row-cropped fields. Most of the acreage has been cultivated. At present, about 40 percent is cultivated or is used as pasture; the rest is wooded or is idle. (Capability unit IIIe–5; woodland group 5.)

Louisburg loamy coarse sand, 6 to 10 percent slopes (LCC).—Except for stronger slopes, this soil is similar to Louisburg loamy coarse sand, 2 to 6 percent slopes. The surface layer is light-gray, loose loamy coarse sand to a depth of about 7 inches. Below this is light yellowish-brown, loose loamy coarse sand that extends to a depth of about 30 inches. The depth to bedrock ranges from 1 to 4 feet.

Erosion is a severe hazard, but this soil can be cultivated occasionally if it is well managed. It is not suited to a wide range of crops, because of a shallow root zone, a low available moisture capacity, and somewhat excessive drainage. About 75 percent of the acreage is in forest. The rest is cultivated, or is used as pasture, or is idle. (Capability unit IVe–4; woodland group 5.)

Louisburg loamy coarse sand, 10 to 15 percent slopes (LCD).—This soil (fig. 8) is light-gray, loose loamy coarse sand to a depth of about 7 inches. Below this is light yellowish-brown loamy coarse sand. The depth to bedrock ranges from 1 to 4 feet.

Because of a shallow root zone and a low available moisture capacity, this soil is not suited to cultivation. Because of the strong slope, surface runoff is moderately rapid in cultivated fields and the erosion hazard is severe.

This soil is suited to permanent pasture and to pine forest. About 75 percent of the acreage is in forest or is idle, and the rest is cultivated or is used as pasture. (Capability unit VIe–3; woodland group 5.)

Louisburg loamy coarse sand, 15 to 25 percent slopes, eroded (LCE2).—Much stronger slopes and a few shallow gullies distinguish this soil from Louisburg loamy coarse

Figure 8.—**Profile of Louisburg loamy coarse sand, 10 to 15 percent slopes. The ruler is 30 inches long.**

moisture capacity, this soil is not suited to cultivation or to permanent pasture. Because of the strong slope, surface runoff is rapid and the erosion hazard is severe in cultivated areas.

This soil is suited to pine forest. About 85 percent of the acreage is in forest. The rest is used as pasture, or is cultivated, or is idle. (Capability unit VIIe–2; woodland group 5.)

Louisburg stony loamy coarse sand, 6 to 10 percent slopes (LDC).—This is a shallow soil. Its light-gray surface layer overlies light yellowish-brown loamy coarse sand that is stony in places. The depth to bedrock ranges from 1 to 4 feet.

Because its surface is stony, only very light farm machinery and hand tools can be used on this soil. It is not suitable for cultivation. It is suitable for forest and to a limited extent for permanent pasture. All of the acreage is in forest. (Capability unit VIs–1; woodland group 5.)

Louisburg stony loamy coarse sand, 10 to 25 percent slopes (LDE).—This soil is light-gray stony loamy coarse sand to a depth of about 7 inches. Below this is light yellowish-brown loamy coarse sand that is stony in places.

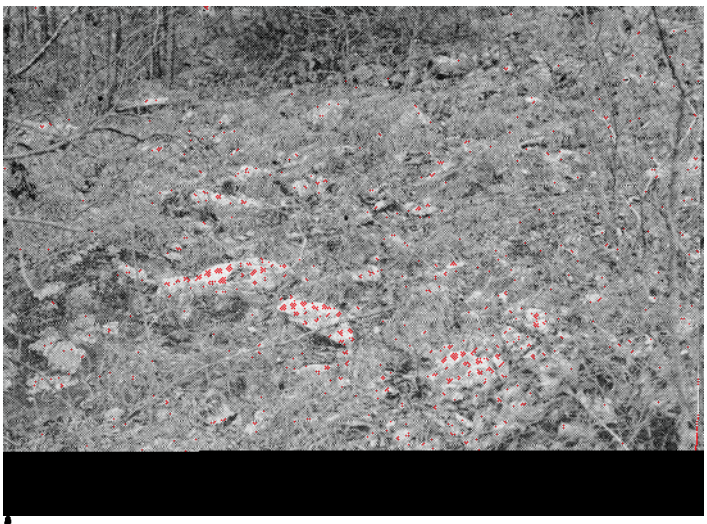


Figure 9.—**An area of Louisburg stony loamy coarse sand, 10 to 25 percent slopes. The stony surface prohibits the use of machinery.**

Louisburg stony loamy coarse sand, 25 to 45 percent slopes (LDF).—The light-gray surface layer of this soil overlies light yellowish-brown loamy coarse sand that is stony in places. The depth to bedrock is 1 to 4 feet.

Because this soil is steep, stony, and shallow, only very light farm machinery and hand tools can be used. This soil is not suitable for cultivation or for permanent pasture. All of the acreage is in forest. (Capability unit VIIe–2; woodland group 5.)

Madison Series

The Madison series consists of deep, well-drained soils that formed on uplands in material weathered from quartz mica schist, mica schist, and granite gneiss. The only Madison soils mapped in Walton County are severely eroded. These have a surface layer of reddish-brown to yellowish-red sandy clay loam and a subsoil of red, dark reddish-brown, or dark-red clay loam to clay.

The depth to bedrock ranges from 4 to 30 feet. The slope range is 2 to 25 percent, but a major part of the acreage has a slope of between 2 and 15 percent. The vegetation is chiefly white oak, post oak, and red oak.

0 to 7 inches, reddish-brown, friable sandy clay loam.
7 to 22 inches, dark-red, firm silty clay; prominent mica flakes; moderate, medium, angular and subangular blocky structure.
22 to 30 inches, red, firm silty clay loam; it has a greasy feel because of the high content of mica; moderate, medium, subangular blocky structure.
30 to 77 inches +, red and dusky red, partly weathered mica schist.

The color of the surface layer ranges from reddish brown to yellowish red. The color of the subsoil is red, dark red, or dark reddish brown; and the texture ranges from clay loam to silty clay loam in the uppermost and lowest parts, and from silty clay to clay in the middle part. Numerous angular pebbles are scattered on the surface in places. Some areas are not severely eroded. In these, the plow layer is yellowish-brown to brown sandy loam.

Some spots that have a surface layer of gravelly fine sandy clay loam are mapped with this soil.

The reaction is strongly acid to very strongly acid. The plow layer is in poor tilth. The root zone is deep. Natural fertility is low, and the organic-matter content is low. Permeability is moderate, the rate of infiltration is slow, the available moisture capacity is moderately high, and surface runoff is medium to moderately rapid.

This soil responds to good management, especially to fertilization. If well managed, it is suited to a wide range of crops. Most of the acreage has been cropped, chiefly to cotton and corn. At present, about half is cultivated or is used as pasture, and the rest is wooded or is idle. Erosion is a moderate to severe hazard in cultivated areas. (Capability unit IIIe–1; woodland group 4.)

Madison sandy clay loam, 6 to 10 percent slopes, severely eroded (MIC3).—Except for stronger slopes, this soil is similar to Madison sandy clay loam, 2 to 6 percent slopes, severely eroded. The surface soil is reddish-brown to yellowish-red sandy clay loam. The color of the subsoil ranges from red and dark red to dark reddish brown. The texture is clay loam or silty clay loam in the uppermost and lowest parts and silty clay or clay in the middle part, but it is commonly red, firm silty clay with a high content of mica.

In some small areas, most of the original surface layer, which consists of yellowish-brown to brown sandy loam, still remains. The plow layer is in good tilth in these areas. In some places, a few shallow gullies have formed.

Because of the slope and a slow rate of infiltration, surface runoff is moderately rapid in cultivated fields

remains. The plow layer is in good tilth in these areas. A few shallow gullies have formed in some places.

Because of the strong slope and a slow rate of infiltration, surface runoff is rapid and the erosion hazard is severe. The available moisture capacity is moderately low. Tilth is generally poor. Consequently, this soil is not suited to cultivation. It is suited to permanent pasture and to pine forest. About 40 percent of the acreage is in forest. The rest is cultivated, or is used as pasture, or is idle. (Capability unit VIe–2; woodland group 4.)

Madison sandy clay loam, 15 to 25 percent slopes, severely eroded (MlE3).—This soil is generally 6 to 10 inches thinner than Madison sandy clay loam, 2 to 6 percent slopes, severely eroded. The uppermost 4 to 7 inches is reddish-brown to yellowish-red sandy clay loam. Below this is red clayey material that has a high content of mica.

In some areas most of the original surface layer, which consists of yellowish-brown to brown sandy loam, still remains. The plow layer is in good tilth in these areas. In some places, a few shallow gullies have formed.

Because of the strong slope and a slow rate of infiltration, surface runoff is very rapid and the erosion hazard is severe. Tilth is generally poor. The available moisture capacity is low. Consequently, this soil is not suited to cultivation. It is suited to pine forest. About 85 percent of the acreage is in forest. The rest is cultivated, or is used as pasture, or is idle. (Capability unit VIIe–1; woodland group 4.)

Rock Outcrop (Rok)

This land type consists of areas in which the bedrock is at the surface (fig. 10). It usually occurs with Louisburg soils. Soil material has accumulated in a few very

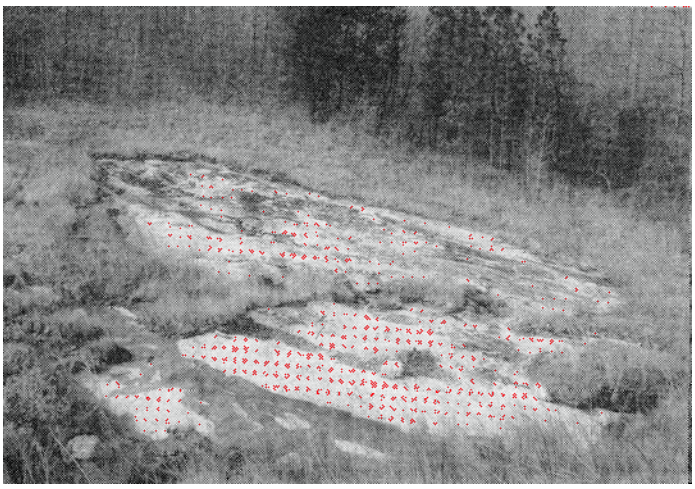


Figure 10.—**Area of Rock outcrop.**

The total acreage is less than 1 percent of the county. The largest areas are in the western part of the county, south of Loganville and west of Walnut Grove. (Capability unit VIIIs–1.)

Wehadkee Series

The Wehadkee series consists of deep, poorly drained soils on first bottoms. These soils were derived from recent alluvium. Their surface layer is mottled silt loam. It overlies mottled gray silty clay loam.

The slope range is 0 to 2 percent. The vegetation is chiefly sweetgum, willow, alder, elm, hickory, poplar, white oak, and water oak.

The reaction is medium acid to very strongly acid. Natural fertility is low, and the organic-matter content is medium. Permeability is slow.

Wehadkee soils occur with Chewacla and Augusta soils. Wehadkee soils are grayer and more poorly drained than Chewacla soils. They are also more poorly drained than Augusta soils.

In this county, Wehadkee soils occur as relatively small areas along the streams. The total acreage is less than 1 percent of the county. About 85 percent of this is in forest. The rest is used as pasture, or is cultivated, or is idle.

Wehadkee silt loam (0 to 2 percent slopes) (Wea).—This is a deep, poorly drained soil on first bottoms. The major horizons are—

0 to 21 inches, mottled, gray and brown silt loam; slightly sticky to sticky when wet.
21 to 36 inches, gray silty clay loam mottled with very dark brown and yellow; slightly plastic.
36 to 44 inches +, gray silty clay loam; slightly plastic.

The color of the surface layer ranges from mottled dark grayish brown to mottled gray. Layers of sand at variable depths are common in the subsurface horizon of some profiles.

A few areas of brown to yellowish-red silty clay loam are mapped with this soil.

The reaction is medium acid to very strongly acid. Natural fertility is low, and the organic-matter content is medium. Tilth is generally good, but in many places it is poor because the soil is wet. The water table is commonly near the surface but may be at a depth of as much as 24 inches. Permeability is slow, the rate of infiltration is slow, the available moisture capacity is high, and surface runoff is slow to very slow.

Because of frequent floods, the high water table, and poor drainage, this soil is not well suited to cultivation. Productivity is low, and the range of suitable crops is limited. This soil is suited to pasture and to hardwood forest. About 85 percent of the acreage is in forest. The rest is used as pasture, or is cultivated, or is idle. (Capability unit IVw–1; woodland group 8.)

Wickham Series

The Wickham series consists of deep, well-drained soils

The slope range is 2 to 6 percent. The vegetation is mainly white oak, post oak, and red oak. Some hickory, dogwood, shortleaf pine, and loblolly pine are also present.

The reaction is very strongly acid. Natural fertility is low and the organic-matter content is low. Permeability is moderate, and the available moisture capacity is moderately high.

Wickham soils occur with Augusta, Cecil, and Lloyd soils. Wickham soils are better drained than Augusta soils, and they have a browner surface layer. They are more friable than Cecil and Lloyd soils and are less red in the subsoil.

In this county, Wickham soils occur as small areas near the larger streams. The total acreage is less than 1 percent of the county. About 75 percent of this is cultivated or is used as pasture, and the rest is wooded or is idle.

Wickham fine sandy loam, 2 to 6 percent slopes, eroded (WgB2).—This is a deep, well-drained soil on stream terraces. The major horizons are—

0 to 6 inches, yellowish-brown fine sandy loam; slightly hard when dry.
6 to 20 inches, yellowish-red, friable sandy clay loam to clay

soils. Worsham soils are more poorly drained and much grayer than any of these associated soils.

Small areas of Worsham soils are scattered throughout the county. The total acreage is less than 1 percent of the county. About 95 percent of this is in forest. The rest is used as pasture, or is cultivated, or is idle.

Worsham soils, 2 to 6 percent slopes (WmB).—These are deep, poorly drained soils that have a mottled, clayey subsoil. The major horizons of Worsham sandy loam are—

0 to 8 inches, sandy loam mottled with brown, olive, and yellow; slightly sticky when wet.
8 to 15 inches, mottled, light-gray and yellow sandy clay; sticky; weak, medium, subangular blocky structure.
15 to 36 inches +, mottled, light-gray and yellow clay; plastic; massive.

The texture of the surface layer ranges from sandy loam and coarse sandy loam to silt loam. The areas of silt loam are in depressions where recent deposits of alluvium are 6 to 10 inches thick. The texture of the subsoil ranges from sandy clay loam to clay.

The reaction is very strongly acid. Natural fertility is low and the organic-matter content is low. The plow

shallow, or otherwise limited that they do not produce worthwhile yields of crops, forage, or wood products.

The subclasses indicate major limitations within the classes. Within most of the classes there can be up to four subclasses. The subclass is indicated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* means that water in or on the soil will interfere with plant growth or cultivation (in some soils wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony, and *c*, used in only some parts of the country, indicates that the chief limitation is climate that is too cold or too dry.

Class I has no subclasses, because the soils in this class have few or no limitations. Class V can have, at the most, only subclasses *w*, *s*, and *c*, because the soils in it are not likely to erode but have other limitations that restrict their use largely to pasture, woodland, or wildlife.

Within the subclasses are the capability units, in which are grouped soils enough alike to be suited to the same crops and pasture plants, to require similar management and respond in like manner to management, and to have similar productivity. Capability units are generally identified by numbers assigned locally, for example, IIe–1 or IIIe–2.

Soils are placed in capability classes, subclasses, and

the choice of plants, or that require special conservation practices, or both.

Subclass IIIe. Soils severely limited by risk of erosion if they are tilled and not protected.

Unit IIIe–1.—Very gently sloping to gently sloping, moderately eroded to severely eroded soils that have a clayey or loamy surface layer and a subsoil of reddish sandy clay loam to clay.

Unit IIIe–2.—Very gently sloping to gently sloping, moderately eroded to severely eroded soils that have a surface layer of coarse sandy loam or sandy clay loam and a subsoil of sandy clay loam or clay.

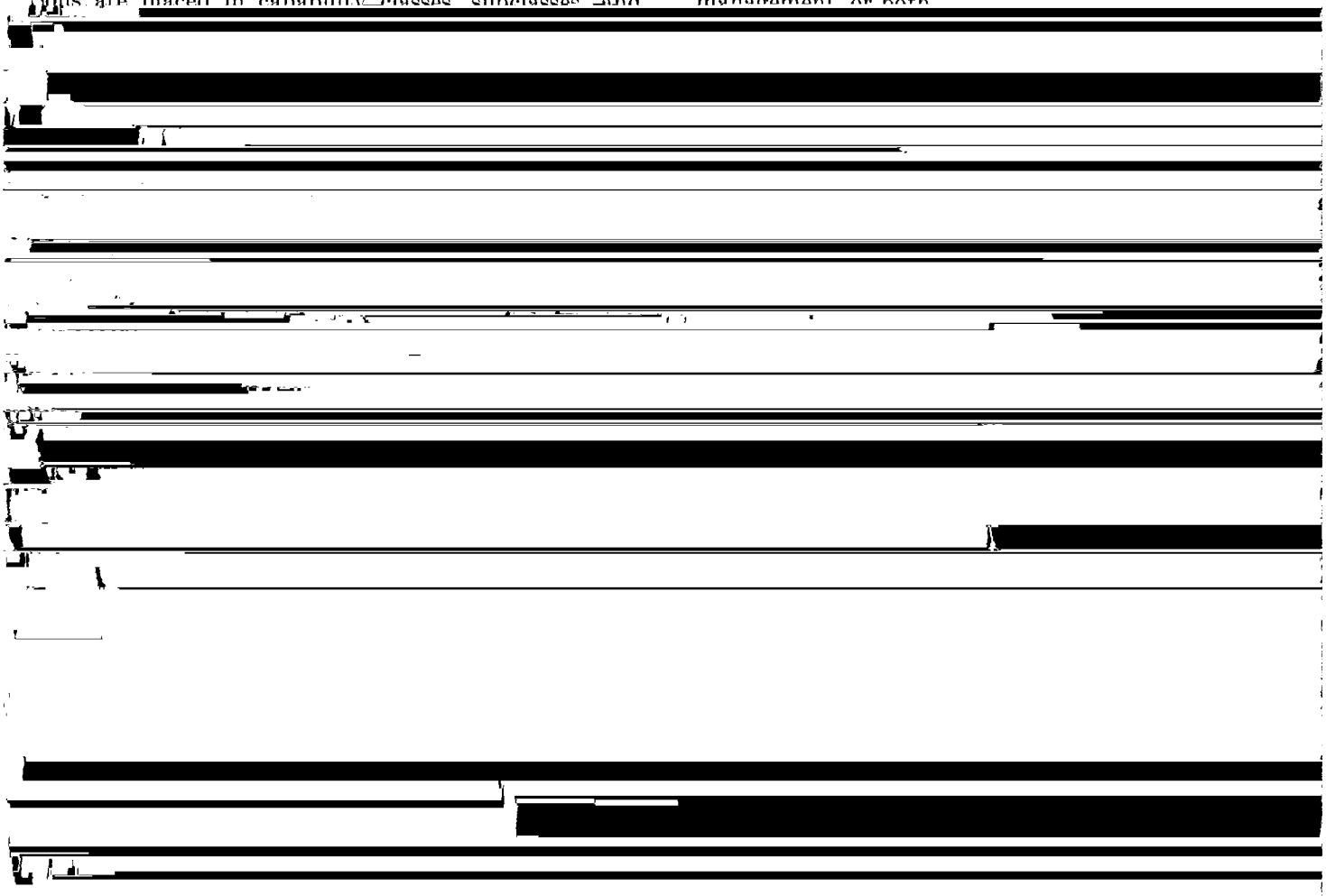
Unit IIIe–5.—Very gently sloping, slightly eroded, shallow to moderately deep soils; weakly developed subsoil.

Subclass IIIw. Soils severely limited by excess water.

Unit IIIw–2.—Somewhat poorly drained loamy soils on first bottoms; subject to overflow.

Unit IIIw–3.—Nearly level to very gently sloping, somewhat poorly drained soils on low stream terraces, around the head of drains, in depressions, and at the base of slopes.

Class IV. Soils that have very severe limitations that restrict the choice of plants, or that require very careful management, or both.



Class VII. Soils that have very severe limitations that make them unsuitable for cultivation and that restrict their use largely to grazing, woodland, or food and cover for wildlife.

Subclass VIIe. Soils very severely limited by risk of erosion if not protected.

Unit VIIe–1.—Severely eroded, strongly sloping to steep soils.

Unit VIIe–2.—Shallow to deep, strongly sloping to steep soils and shallow to deep, stony soils.

Unit VIIe–4.—Gullied land.

Class VIII. Soils and land types that have no agricultural value because of limitations that restrict their use to recreation, wildlife, water supply, or esthetic purposes.

Subclass VIIIs. Rock or soil material that supports little vegetation.

Unit VIIIs–1.—Rock outcrop.

Management by Capability Units [2]

a complete fertilizer regularly in amounts indicated by soil tests. Legumes need nitrogen only at the time of planting.

Erosion is a slight hazard on the strongest slopes, but special erosion control measures are either not needed or not practical to develop or install, because the areas are small.

Capability unit IIe–1

This unit consists of deep, well-drained, moderately eroded soils on uplands and on stream terraces. The slope range is 2 to 6 percent. The uppermost 6 or 7 inches is friable to slightly hard loam to sandy loam. The subsoil is predominantly firm clay loam to clay, but in some places it is friable sandy clay loam. The color of the subsoil ranges from strong brown to dusky red. Plant roots can penetrate effectively to a depth of 36 inches or more. Generally, bedrock is at a depth of more than 6 feet. The soils are—

Davidson loam, 2 to 6 percent slopes, eroded

to a depth of 36 inches or more. Bedrock is normally at a depth of more than 5 feet. The soils are—

Altavista fine sandy loam, 2 to 6 percent slopes.
Appling coarse sandy loam, 2 to 6 percent slopes, eroded.
Appling coarse sandy loam, 2 to 6 percent slopes.
Cecil coarse sandy loam, 2 to 6 percent slopes.
Cecil coarse sandy loam, 2 to 6 percent slopes, eroded.
Durham loamy coarse sand, 2 to 6 percent slopes.

The reaction is medium acid to extremely acid. Natural fertility is low, and the organic-matter content is low. Tilth is good. Permeability is moderate to moderately slow, the rate of infiltration is moderate, and the available moisture capacity is moderately high. These soils warm up more slowly in spring than the soils in capability unit IIe–1.

The total acreage of the soils in this unit is slightly less than 18 percent of the county. Of this, 60 percent is cultivated or is used as pasture. The rest is in forest or is idle.

These soils are well suited to most of the locally grown crops, including grasses and legumes (fig. 11). Generally

matter content, plant a close-growing cover crop or a soil-improving crop or a high-residue crop at least 1 year out of 2 or 3 years. When annual crops are grown, keep all residue on the surface between seasons of crop production and, whenever possible, on or just below the surface during the season of crop production. To maintain high yields, lime the soils every 3 to 5 years and apply a complete fertilizer annually in amounts indicated by soil tests. Legumes need nitrogen only at the time of planting.

Erosion is the chief hazard when these soils are cultivated. Contour tillage, terraces, vegetated waterways, stripcropping, and adequately fertilized close-growing crops in the rotation are effective erosion control measures.

Capability unit IIw–2

This unit consists of Alluvial land, a deep, moderately well drained land type on flood plains. The slope range is 0 to 2 percent. The texture of the plow layer varies widely, but in most places it is friable silt loam or sandy loam. The subsoil is predominantly reddish-brown or

The subsoil is friable sandy clay loam in the upper part and firm sandy clay loam to clay in the lower part. Mottling commonly begins at a depth of 17 to 23 inches. Plant roots can penetrate effectively to a depth of 36 inches or more. Bedrock is generally at a depth of more than 5 feet. The soils are—

Appling coarse sandy loam, 0 to 2 percent slopes.
Durham loamy coarse sand, 0 to 2 percent slopes.

The reaction is medium acid to extremely acid. The supply of plant nutrients and the organic-matter content are low. Tilth is good. Permeability is moderate to moderately slow, and the rate of infiltration is rapid.

The total acreage of the soils in this unit is less than 1 percent of the county. Of this, 75 percent is cultivated or is used as pasture. The rest is wooded or is idle.

These soils are well suited to melons and sweetpotatoes and to most other locally grown crops, including grasses and legumes. They are moderately well suited to wheat and to alfalfa. They respond well to fertilization, and

penetrate effectively to a depth of 36 inches or more. Bedrock is generally at a depth of more than 6 feet. The soils are—

Cecil sandy clay loam, 2 to 6 percent slopes, severely eroded.
Davidson loam, 6 to 10 percent slopes, eroded.
Davidson clay, 2 to 6 percent slopes, severely eroded.
Lloyd sandy loam, 6 to 10 percent slopes, eroded.
Lloyd clay loam, 2 to 6 percent slopes, severely eroded.
Madison sandy clay loam, 2 to 6 percent slopes, severely eroded.

The reaction is strongly acid to very strongly acid. Natural fertility is low, and the organic-matter content is low. Tilth is good, except in the severely eroded areas. Permeability is moderate, the rate of infiltration is moderate to slow, and the available moisture capacity is moderately high.

The total acreage of the soils in this unit is about 16 percent of the county. Of this, about 60 percent is cultivated or is used as pasture. The rest is wooded or is idle.

These soils are suited to all the locally grown crops,

yellowish-red, and olive-yellow sandy clay loam to clay. Plant roots can penetrate effectively to a depth of 36 inches or more. Bedrock generally is at a depth of more than 8 feet. The soils are—

Appling coarse sandy loam, 6 to 10 percent slopes, eroded.
Appling sandy clay loam, 2 to 6 percent slopes, severely eroded.
Cecil coarse sandy loam, 6 to 10 percent slopes, eroded.

The reaction is very strongly acid to extremely acid. Natural fertility is low, and the organic-matter content is low. The coarse sandy loams are in good tilth. The sandy clay loam cannot be tilled throughout a wide range of moisture content without adverse effects on structure and tilth. Soils of this capability unit warm up slowly in spring. Their rate of infiltration is moderate to slow, permeability is moderate to moderately slow, and their available moisture capacity is moderately high.

The soils in this unit make up about 8 percent of this county. About 50 percent of their acreage is cultivated or is used as pasture. The rest is wooded or is idle.

These soils are well suited to most of the locally grown crops, including grasses and legumes. They are less well suited to wheat, pimiento peppers, barley, alfalfa, and

To improve or maintain tilth and soil structure, especially in the severely eroded soils, include an appropriate perennial in the cropping system. When annual crops are grown, keep all residue on the surface between seasons of crop production and, whenever possible, on or just below the surface during the season of crop production. To maintain high yields, apply lime every 3 to 5 years and a complete fertilizer regularly in amounts indicated by soil tests. Legumes need nitrogen only at the time of planting.

Erosion is the main hazard when these soils are cultivated. Contour tillage, terraces, vegetated outlets, and adequately fertilized close-growing crops in the rotation are effective means of controlling erosion.

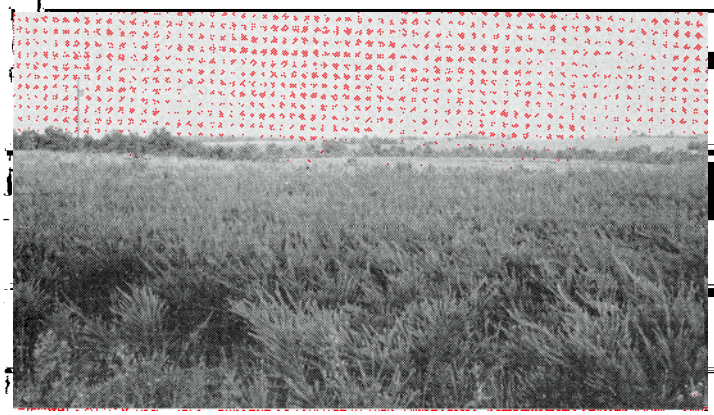
Capability unit IIIe–5

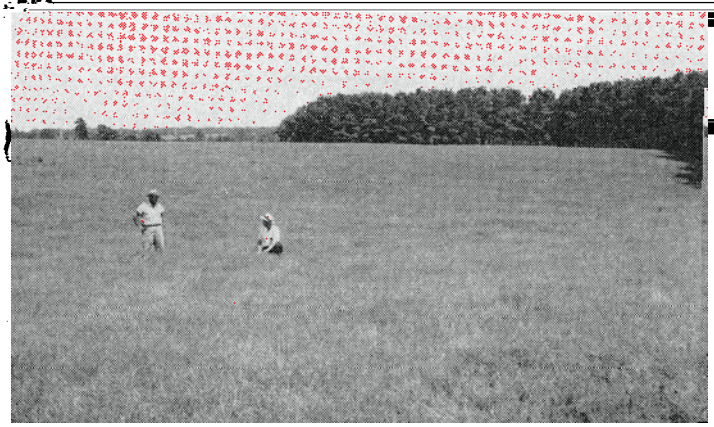
Louisburg loamy coarse sand, 2 to 6 percent slopes, is the only soil in this unit. It is a shallow to moderately deep, somewhat excessively drained soil on uplands. It consists of loose loamy coarse sand directly over bedrock, which is generally at a depth of less than 3 feet. Plant

Capability unit IIIw–2

This unit consists of deep, somewhat poorly drained soils on nearly level flood plains. The slope range is 0 to 2 percent. The surface layer ranges from slightly sticky silt loam to nonsticky loamy sand. The subsoil is good. Permeability is slow, the rate of infiltration is moderate, the available moisture capacity is high, and surface runoff is slow.

The soils in this unit make up less than 1 percent of the county. About 65 percent of their acreage is in forest.





Capability unit IVw–1

This unit consists of deep, poorly drained soils on flood plains that are flooded frequently. The slope range is 0 to 2 percent. The surface layer is sticky silt loam to nonsticky loamy sand, and the subsoil is mottled silty clay loam to loamy coarse sand. Because the water table

Capability unit VIe–2

This unit consists of deep, well-drained to somewhat poorly drained, moderately eroded to very severely eroded soils on uplands. The slope range is 6 to 25 percent. The uppermost 5 to 8 inches is friable sandy loam or coarse sandy loam in the moderately eroded

low. Tilth is good. This soil can be tilled throughout a wide range of moisture content without adverse effects on structure or tilth. It has a shallower root zone than the soils in capability unit VIe–2, and it is more droughty. Permeability is rapid, the rate of infiltration is rapid, the available moisture capacity is low, and surface runoff is moderately rapid.

The total acreage is less than 1 percent of the county. Of this, about 75 percent is wooded.

Because of strong slopes, a severe erosion hazard, and low available moisture capacity, this soil is unsuitable for cultivation, but it can support pasture, hay crops, and forest. It is moderately well suited to annual lespedeza, bermudagrass, sericea lespedeza, ryegrass, crimson clover, and bahiagrass. Grasses and legumes are difficult to establish and to maintain because of severe sheet erosion, a lack of available moisture, and a shallow root zone.

To establish pasture or hay crops, till and plant on the contour. To obtain the best yields possible, apply a complete fertilizer every year and lime every 3 to 5 years. Renew pasture or hay stands in alternate strips to help check erosion. In pastures, control grazing to avoid weakening the plant cover.

Capability unit VIs–1

Louisburg stony loamy coarse sand, 6 to 10 percent slopes, is the only soil in this unit. It is a shallow, somewhat excessively drained soil on uplands. Loose stony loamy coarse sand is directly over bedrock, which is generally at a depth of less than 3 feet. In most places, plant roots can penetrate effectively to a depth of only 12 to 24 inches.

The reaction is strongly acid to very strongly acid. Natural fertility is low, and the organic-matter content is low. Tilth is poor. Permeability is rapid, the rate of infiltration is rapid, the available moisture capacity is low, and surface runoff is medium.

This soil makes up less than 1 percent of the county. All of the acreage is wooded.

Because of the many stones on the surface and below the surface, this soil is not suitable for cultivation. It is best suited to trees, but it can be used to a limited extent as pasture. Grasses and legumes are difficult to establish and to maintain.

When this soil is used as pasture, apply a complete fertilizer every year and lime every 3 to 5 years. Control

Natural fertility is low, and the organic-matter content is low. Tilth is poor. Permeability is moderate, the rate of infiltration is slow, the available moisture capacity is low, and surface runoff is rapid to very rapid.

The total acreage of the soils in this unit is about 1 percent of the county. Much of this has been cultivated in the past, but about 85 percent is now wooded.

Because of strong slopes and a severe to very severe erosion hazard, these soils are unsuitable for cultivation. They are suitable for shortleaf and loblolly pine. To reduce the risk of erosion, perform all forestry operations on the contour, and run logging roads and firebreaks on the contour.

Capability unit VIIe–2

This unit consists of shallow to deep, slightly eroded to moderately eroded, well-drained to somewhat excessively drained soils on uplands. The slope range is 10 to 45 percent. The uppermost 6 to 8 inches ranges from friable loam to loose loamy coarse sand and is stony in places. The subsoil is variable, but in most places it is light yellowish-brown, loose loamy coarse sand or stony loamy coarse sand. In some places it is reddish-brown to dark-red sandy clay loam to clay, and in others it is fine sandy loam. Normally, plant roots can penetrate effectively to a depth of only 12 to 24 inches. Bedrock is generally at a depth of less than 3 feet. The soils are—

Lloyd stony loam, 10 to 25 percent slopes.
Louisa fine sandy loam, 15 to 45 percent slopes.
Louisburg loamy coarse sand, 15 to 25 percent slopes, eroded.
Louisburg stony loamy coarse sand, 10 to 25 percent slopes.
Louisburg stony loamy coarse sand, 25 to 45 percent slopes.

The reaction is strongly acid to very strongly acid. Natural fertility is low, and the organic-matter content is low. Tilth is poor in the stony soils and fairly good in the others. Permeability is moderate to rapid, the rate of infiltration is moderate to rapid, the available moisture capacity is moderate to low, and surface runoff is moderately rapid to rapid. These soils are more shallow, more droughty, or more stony than the soils in capability unit VIIe–1.

The total acreage of the soils in this unit is slightly more than 3 percent of the county. About 90 percent of this is in forest.

These soils are unsuitable for cultivation because of a severe to very severe erosion hazard, a stony surface layer,

Because of the gullies, and because erosion is a severe hazard, Gullied land is unsuitable for cultivation and generally undesirable for pasture. It is suited to pine. Establishing any vegetation on this land type requires great care and skill.

Capability unit VIIIs-1

This unit consists of one land type, Rock outcrop, in which bedrock is at the surface. This land type makes up slightly less than 1 percent of the county. To a limited extent, it is a source of crushed stone, and it can be developed for recreational use, but it has no agricultural value.

Estimated Yields

Table 7 gives estimated yields of the principal crops grown in the county, under two levels of management. In the A columns are yields obtained under customary management. In the B columns are yields obtained under improved management or in experimental plots. The figures are based on recorded yields on individual farms; on yields obtained in long-term experiments; and on estimates made by agronomists who have had experience with the crops and with the soils.

Dashes in a column instead of a figure indicate that expectable yields are considered too low or that management requirements are too exacting to warrant growing the crop.

The estimates are for soils that have not been irrigated. Those soils listed as *drained* are assumed to be adequately drained and not subject to overflow. The estimates for soils subject to overflow do not reflect losses by flooding, because this hazard varies too greatly from place to place to justify estimating the loss.

Improved management (columns B) consists of the following practices: carefully choosing a crop and a cropping system; preparing a proper seedbed; seeding, at recommended rates and at proper times, inoculated legumes, high-yielding varieties, and hybrids; controlling weeds; draining excess water; providing vegetated waterways; tilling on the contour or terracing where needed;

On soils that have an estimated yield of 15 to 35 bushels per acre, the requirements are—

(1) 16 to 32 pounds of nitrogen (N), and 16 to 36 pounds each of phosphoric acid (P_2O_5) and potash (K_2O).
(2) 5,000 to 8,000 plants per acre.

Cotton.—Management requirements for this crop vary because the soils differ in productivity and in moisture-supplying capacity.

On soils that have an estimated yield of 500 pounds of cotton (lint) or more per acre, the requirements are—

(1) 60 to 96 pounds each of nitrogen (N), phosphoric acid (P_2O_5), and potash (K_2O).
(2) 24,000 to 30,000 plants per acre.
(3) Effective insect control programs.

On soils that have an estimated yield of 250 to 500 pounds per acre, the requirements are—

(1) 36 to 60 pounds each of nitrogen (N), phosphoric acid (P_2O_5), and potash (K_2O).
(2) 16,000 to 24,000 plants per acre.
(3) Effective insect control programs.

On soils that have an estimated yield of 150 to 250 pounds per acre, the requirements are—

(1) 12 to 36 pounds of nitrogen (N) and 16 to 36 pounds each of phosphoric acid (P_2O_5) and potash (K_2O).
(2) 12,000 to 18,000 plants per acre.
(3) Effective insect control programs.

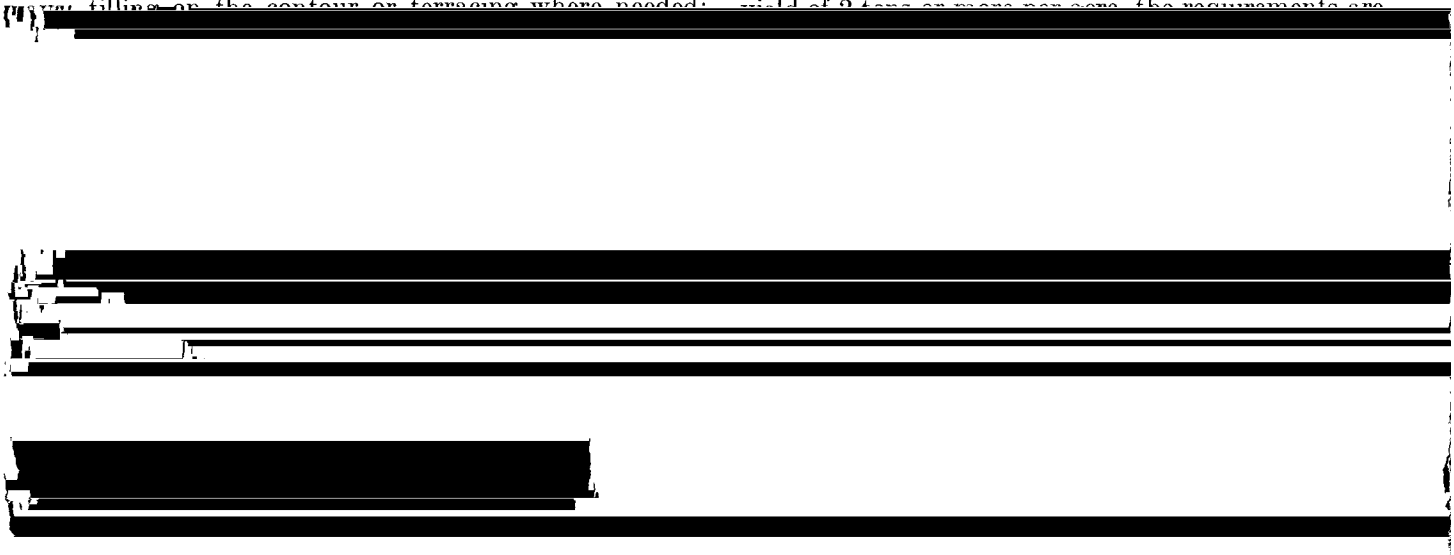
Oats and wheat.—On soils that have an estimated yield of more than 50 bushels of oats per acre, or more than 25 bushels of wheat, the requirements are—

(1) 16 to 24 pounds of nitrogen (N) and 48 to 72 pounds each of phosphoric acid (P_2O_5) and potash (K_2O) applied at the time of planting.
(2) 32 to 64 pounds of nitrogen (N) applied late in winter.

On soils that have an estimated yield of 25 to 50 bushels of oats per acre, or 12 to 25 bushels of wheat, the requirements are—

(1) 8 to 16 pounds of nitrogen (N) and 24 to 48 pounds each of phosphoric acid (P_2O_5) and potash (K_2O) applied at the time of planting.
(2) 16 to 32 pounds of nitrogen (N) applied late in winter.

Sericea lespedeza.—On soils that have an estimated yield of 2 tons or more per acre, the requirements are



(K_2O), and 1 to 3 tons of lime applied at the time of seeding in amounts indicated by soil tests.

(2) 20 pounds of borax, 100 pounds of phosphoric acid (P_2O_5), and 200 pounds of potash (K_2O) applied annually

Estimating Probability of Drought Damage

Successful crop production in Walton County requires

TABLE 7.—*Estimated average acre yields of*

[Yields in columns A are to be expected under common management, and those in columns B under improved

Soil	Capability unit	Corn [1]		Cotton (lint)	
		A	B	A	B
		Bu.	*Bu.*	*Lb.*	*Lb.*
Alluvial land	IIw–2	35	90	250	500
Alluvial land, moderately wet (drained)	IIIw–2	30	70		
Alluvial land, wet	IVw–1				
Altavista fine sandy loam, 2 to 6 percent slopes	IIe–2	30	70	375	550
Appling coarse sandy loam, 0 to 2 percent slopes	IIs–1	35	75	350	600
Appling coarse sandy loam, 2 to 6 percent slopes	IIe–2	35	75	350	600
Appling coarse sandy loam, 2 to 6 percent slopes, eroded	IIe–2	30	70	350	550
Appling coarse sandy loam, 6 to 10 percent slopes, eroded	IIIe–2	25	60	325	525
Appling coarse sandy loam, 10 to 15 percent slopes, eroded	IVe–1	20	50	300	500
Appling sandy clay loam, 2 to 6 percent slopes, severely eroded	IIIe–2	25	50	275	500
Appling sandy clay loam, 6 to 10 percent slopes, severely eroded	IVe–1	20	40	250	475
Appling sandy clay loam, 10 to 15 percent slopes, severely eroded	VIe–2				
Augusta fine sandy loam (drained)	IIIw–3	30	50		
Cecil coarse sandy loam, 2 to 6 percent slopes	IIe–2	30	70	400	700
Cecil coarse sandy loam, 2 to 6 percent slopes, eroded	IIe–2	30	70	400	700
Cecil coarse sandy loam, 6 to 10 percent slopes, eroded	IIIe–2	25	60	375	625
Cecil coarse sandy loam, 10 to 15 percent slopes, eroded	IVe–1	20	50	350	550
Cecil coarse sandy loam, 15 to 25 percent slopes, eroded	VIe–2				
Cecil sandy clay loam, 2 to 6 percent slopes, severely eroded	IIIe–1	25	50	375	600
Cecil sandy clay loam, 6 to 10 percent slopes, severely eroded	IVe–1	20	40	300	500
Cecil sandy clay loam, 10 to 15 percent slopes, severely eroded	VIe–2				
Cecil sandy clay loam, 15 to 25 percent slopes, severely eroded	VIIe–1				
Cecil-Gullied land complex, 6 to 10 percent slopes	VIe–2				
Cecil-Gullied land complex, 10 to 15 percent slopes	VIIe–1				
Chewacla silt loam (drained)	IIIw–2	40	85		
Colfax sandy loam, 2 to 6 percent slopes (drained)	IIIw–3	20	30		
Colfax sandy loam, 6 to 10 percent slopes, eroded	VIe–2				
Davidson loam, 2 to 6 percent slopes, eroded	IIe–1	30	60	375	600
Davidson loam, 6 to 10 percent slopes, eroded	IIIe–1	25	50	325	525
Davidson clay, 2 to 6 percent slopes, severely eroded	IIIe–1	25	50	300	500
Davidson clay, 6 to 10 percent slopes, severely eroded	IVe–1	20	40	275	475
Davidson clay, 10 to 15 percent slopes, severely eroded	IVe–1	15	30	250	450
Durham loamy coarse sand, 0 to 2 percent slopes	IIs–1	35	75	350	600
Durham loamy coarse sand, 2 to 6 percent slopes	IIe–2	35	75	350	600
Gullied land	VIIe–4				
Lloyd sandy loam, 2 to 6 percent slopes, eroded	IIe–1	30	70	400	700
Lloyd sandy loam, 6 to 10 percent slopes, eroded	IIIe–1	25	60	375	625
Lloyd sandy loam, 10 to 15 percent slopes, eroded	IVe–1	20	50	350	550
Lloyd sandy loam, 15 to 25 percent slopes, eroded	VIe–2				
Lloyd clay loam, 2 to 6 percent slopes, severely eroded	IIIe–1	25	40	375	600
Lloyd clay loam, 6 to 10 percent slopes, severely eroded	IVe–1	20	35	325	500
Lloyd clay loam, 10 to 15 percent slopes, severely eroded	IVe–1	15	30	250	400
Lloyd clay loam, 15 to 25 percent slopes, severely eroded	VIe–2				
Lloyd clay loam, 25 to 45 percent slopes, severely eroded	VIIe–1				
Lloyd stony loam, 10 to 25 percent slopes	VIIe–2				
Lloyd-Gullied land complex, 6 to 10 percent slopes	VIe–2				
Lloyd-Gullied land complex, 10 to 15 percent slopes	VIe–2				
Local alluvial land	I–1	35	80	400	700
Louisa fine sandy loam, 15 to 45 percent slopes	VIIe–2				
Louisburg loamy coarse sand, 2 to 6 percent slopes	IIIe–5	20	30	200	375
Louisburg loamy coarse sand, 6 to 10 percent slopes	IVe–4	15	25	150	325
Louisburg loamy coarse sand, 10 to 15 percent slopes	VIe–3				
Louisburg loamy coarse sand, 15 to 25 percent slopes, eroded	VIIe–2				

principal crops under two levels of management

management, not including irrigation. Absence of figure indicates crop is not commonly grown on the soil]

Oats		Wheat		Hay					Pasture			
				Sericea lespedeza		Alfalfa	Coastal bermudagrass		Coastal bermudagrass		Tall fescue and white clover [2]	
A	B	A	B	A	B	B	A	B	A	B	A	B
Bu.	*Bu.*	*Bu.*	*Bu.*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Cow-acre-days* [3]	*Cow-acre-days* [3]	*Cow-acre-days* [3]	*Cow-acre-days* [3]
30	60			1. 5	3. 0		2. 0	4. 5	170	235	120	200
							1. 5	4. 0	135	195	120	200
											40	80
35	65			1. 0	2. 0		3. 0	5. 5	175	270	100	170
40	65	10	20	2. 0	3. 0	2. 0	3. 0	5. 5	175	270	100	170
40	65	15	25	2. 0	3. 0	2. 0	3. 0	5. 5	160	255	100	160
35	60	15	25	1. 5	2. 5	2. 0	2. 5	5. 0	150	240	85	140
30	55	10	20	1. 5	2. 5	1. 5	2. 0	4. 5	150	240	80	140
25	50	10	20	1. 5	2. 5	1. 5	1. 5	4. 0	130	200	75	120
30	50	15	20	1. 0	2. 0		2. 0	4. 5	130	200	70	110
25	45	10	20	1. 0	1. 5		1. 5	4. 0	130	200	65	100
				. 8	1. 3		1. 5	3. 0	100	170	60	90
				1. 0	1. 5		1. 5	3. 5	100	195	110	150
35	65	20	35	1. 5	3. 0	3. 8	3. 0	5. 5	160	255	110	150
35	65	20	35	1. 5	3. 0	3. 8	2. 5	5. 0	150	240	100	140
30	60	20	35	1. 5	3. 0	3. 8	2. 0	4. 5	150	240	100	140
25	55	15	30	1. 2	2. 5	3. 5	1. 5	4. 0	140	200	70	125
				1. 0	2. 0				120	180	60	100
30	50	20	30	1. 3	3. 0	3. 0	2. 0	4. 5	155	225	90	130
25	45	15	25	1. 0	2. 5	2. 5	1. 5	4. 0	155	225	90	130
				1. 0	2. 0	2. 0	1. 5	3. 0	120	190	75	120
				1. 0	2. 2				100	180	65	95
							1. 5	4. 0	120	190	120	200
				1. 0	1. 5		1. 5	3. 5	100	195	80	130
				1. 5	2. 0		1. 5	3. 0	100	170	70	120
30	60	25	40	2. 1	3. 2	4. 0	2. 5	5. 0	140	230	95	140
30	55	20	35	1. 8	3. 2	4. 0	2. 0	4. 5	140	230	95	140
30	55	20	35	1. 5	3. 0	3. 5	1. 5	4. 0	125	200	90	135
25	50	20	30	1. 5	2. 8	3. 5	1. 5	3. 5	125	200	90	135
20	45	15	25	1. 3	2. 5	3. 0	1. 5	3. 0	110	180	85	125
40	65	10	20	1. 5	2. 5	2. 0	3. 0	5. 5	175	270	100	170
40	65	15	25	1. 5	2. 5	2. 0	3. 0	5. 5	160	255	100	160
35	60	25	40	1. 8	3. 2	4. 0	2. 5	5. 0	160	255	100	140
30	55	20	35	1. 8	3. 2	4. 0	2. 0	4. 5	150	240	100	140
30	55	15	35	1. 5	3. 0	3. 5	1. 5	4. 0	140	200	90	125
				1. 3	2. 5				120	180	60	100
35	60	20	35	1. 5	3. 0	3. 5	2. 0	4. 5	155	225	90	130
30	55	20	30	1. 5	2. 8	3. 5	1. 5	4. 0	155	225	90	130
25	50	15	25	1. 3	2. 5	3. 0	1. 5	3. 0	120	190	75	120
				1. 0	2. 0				120	170	65	95
				1. 0	1. 5	2. 5			100	180	70	100
				. 7	1. 0				100	170	65	95
35	65	20	30	2. 0	3. 3	2. 5	3. 0	5. 5	175	270	120	200
25	40			1. 2	1. 5		1. 5	3. 5	140	200		
20	40			1. 0	1. 3		1. 5	3. 5	140	200		
				1. 0	1. 3		1. 5	3. 0	130	190		
30	55	15	30	1. 3	3. 0	3. 0	2. 0	4. 5	160	225	80	120
25	50	15	25	1. 3	2. 5	2. 5	1. 5	4. 0	155	225	70	110
				1. 0	2. 0	2. 0	1. 5	3. 0	120	190	65	100
											80	125
30	65	20	40	1. 5	3. 0	3. 5	2. 5	5. 0	160	255	85	130
											60	80

[2] Ladino clover may be substituted for white clover.

[3] Number of days in 1 year that 1 acre will provide grazing for 1 animal unit (1 cow, steer, or horse; or 7 sheep or goats) without injury to pasture.

LIST B: Total Available Moisture

Soils:	Approximate available moisture, in inches of water in soil from surface to a depth of— 12 inches	24 inches	36 inches
Alluvial land	2	3	4
Alluvial land, moderately wet	2	3	4
Alluvial land, wet	(1)	(1)	(1)
Altavista fine sandy loam	1	3	5
Appling coarse sandy loam	1	3	5
Appling sandy clay loam	2	3	5
Augusta fine sandy loam	2	4	5
Cecil coarse sandy loam	2	3	5
Cecil sandy clay loam	1	3	5
Chewacla silt loam	2	3	5
Colfax sandy loam	2	3	4
Davidson clay	1	3	4
Davidson loam	1	2	4
Durham loamy coarse sand	1	3	5
Gullied land	(1)	(1)	(1)
Lloyd clay loam	1	3	4
Lloyd sandy loam	2	3	5
Lloyd stony loam	(1)	(1)	(1)
Local alluvial land	2	3	4
Louisa fine sandy loam	1	2	(2)
Louisburg loamy coarse sand	1	2	(2)
Louisburg stony loamy coarse sand	(1)	(1)	(1)
Madison sandy clay loam	1	3	5
Rock outcrop	(1)	(1)	(1)
Wehadkee silt loam	(1)	(1)	(1)
Wickham fine sandy loam	2	3	5
Worsham soils	(1)	(1)	(1)

[1] Crops in list A are generally not grown on these soils and land types.
[2] Roots generally do not penetrate below a depth of 24 inches.

Use of the Soils for Woodland [4]

Walton County is located near the center of the Piedmont section of Georgia, which was originally covered by hardwoods or by mixed stands of pine and hardwoods. Before 1800, the uplands of the county were covered by oak, hickory, and some pine. Yellow-poplar, gum, oak, and maple grew on the bottom lands. By 1920, most of the original timber had been cut and the uplands had reseeded naturally to loblolly and shortleaf pine. The second-growth pine was cut heavily in the 1930's and 1940's. The better second-growth hardwoods on the bottom lands were also cut heavily during the same period.

Approximately half of the county's 211,200 acres is now in woodland. About 98 percent of the woodland is privately owned, and the rest is owned by commercial firms or by the State or Federal Government. On the uplands, the present forest cover consists mostly of loblolly pine and shortleaf pine, but undesirable hardwoods have invaded much of the area. Low-grade hardwoods make up the forest cover on the bottom lands.

Most of the soils in the county are well suited to trees. Lumber, veneer, and pulpwood are the principal wood products, and they are second to agricultural products in contributing to the economy of the county. Markets for the principal wood products are adequate, but a stable market for low-grade hardwoods is needed. Much

TABLE 8.—*Probabilities of drought days on soils of different moisture-storage capacities*

Month [1]	Probability	Minimum drought days if soil has a moisture-storage capacity of [2]— 1 inch	2 inches	3 inches	4 inches	5 inches
April	1 in 10	16	0	0	0	0
	2 in 10	14	0	0	0	0
	3 in 10	12	0	0	0	0
	5 in 10	9	0	0	0	0
May	1 in 10	25	24	22	14	7
	2 in 10	22	20	16	9	0
	3 in 10	20	17	11	5	0
	5 in 10	16	12	0	0	0
June	1 in 10	24	23	23	21	18
	2 in 10	21	20	19	17	14
	3 in 10	20	18	17	14	11
	5 in 10	17	14	12	10	6
July	1 in 10	22	21	19	19	18
	2 in 10	19	17	15	15	14
	3 in 10	17	14	12	12	11
	5 in 10	14	9	8	7	6
August	1 in 10	22	19	18	17	16
	2 in 10	18	15	13	12	11
	3 in 10	16	12	10	8	7
	5 in 10	13	7	0	0	0
September	1 in 10	24	22	21	20	18
	2 in 10	21	18	16	15	13
	3 in 10	18	15	12	11	8
	5 in 10	16	10	7	0	0
October	1 in 10	28	28	25	25	24
	2 in 10	24	22	19	18	16
	3 in 10	20	18	15	12	10
	5 in 10	15	11	8	0	0

[1] January, February, March, November, and December are not shown, because crops are rarely damaged by drought in these months.
[2] Moisture-storage capacity of soil is expressed as the inches of water that a soil can hold and make available to plants.

istics that affect tree growth. The soils of Walton County have been placed in eight woodland suitability groups. Each group consists of soils that have about the same suitability for wood crops, require about the same management, and have about the same potential productivity.

Table 9 lists the eight woodland suitability groups, which are described later in the text. Also, table 9 gives the average site index for various kinds of trees and the hazards and limitations that affect management. The terms used in this table require explanation.

SITE INDEX.—The potential productivity of a soil for a

by undesirable brush, trees, or other plants. The invading growth competes with the desirable trees and hinders their establishment and growth.

Competition is *slight* if unwanted plants create no special problem. It is *moderate* if the invaders delay but do not prevent the establishment of a normal, fully stocked stand. Where competition is moderate, seedbed preparation is generally not needed and simple methods will keep undesirable plants from invading. Competition is *severe* if trees cannot regenerate naturally. Where competition is severe, the unwanted plants should be destroyed by controlled burning, spraying with chemicals, or girdling, and the site should be carefully prepared for planting.

EQUIPMENT LIMITATION.—Drainage, slope, stoniness, soil texture, or other soil characteristics or topographic features may restrict or prohibit the use of equipment for pruning, thinning, harvesting, or other operations. Different soils may require different kinds of equipment or special methods of operation or may be unsuitable for machine use at different seasons.

The limitation is *slight* if there are no restrictions on the type of equipment or on the time of year that the equipment can be used. It is *moderate* if slopes are moderately steep, if wetness in winter and early in spring restricts the use of heavy equipment, or if tree roots are damaged to some extent by the use of equipment. The limitation is *severe* if many types of equipment cannot be used, if the period during which equipment cannot be used is more than 3 months in a year, and if the use of equipment severely damages tree roots and the structure and stability of the soil. The limitation is severe on moderately steep and steep, stony and rocky soils. It is also severe, in winter or early in spring, on wet bottom lands and on low terraces.

velocity very high. It is *severe* if roots are not deep enough to give adequate stability; individual trees are likely to be blown over if the trees on all sides are removed.

EROSION HAZARD.—Woodland can be protected from erosion by growing suitable kinds of trees, by adjusting the rotation age and cutting cycles, by using special techniques in management, and by carefully constructing and maintaining roads, trails, and landings.

The erosion hazard is rated according to the risk of erosion on well-managed woodland that is not protected by special practices. It is *slight* where only a small loss of soil is expected, generally on 0 to 2 percent slopes where runoff is slow or very slow. It is *moderate* where the vegetation is not adequate for protection and a moderate loss of soil would be expected if runoff were not controlled. It is *severe* where slopes are steep, runoff is rapid, and infiltration and permeability are slow.

On the following pages the eight woodland suitability groups of Walton County are described, and the soils in each group are listed.

Gullied land (Gul) and Rock outcrop (Rok) are not included in a woodland suitability group, because trees suitable for commercial use do not normally grow on these land types.

WOODLAND SUITABILITY GROUP 1

This group consists of deep, moderately well drained to well drained soils on flood plains, in depressions, and at the head of drains. The soils are—

Alm Alluvial land.
Lcm Local alluvial land.

The average site index is 102 for loblolly pine, 86 for shortleaf pine, 90 for sweetgum, and 80 for red oak and white oak.

Competition from cull trees, underbrush, and vines is the

TABLE 9.— *Woodland suitability groups, average productivity, and major hazards and limitations affecting management*

Woodland suitability group	Average productivity			Hazards and limitations
	Commercial trees [1]	Site index [2]	Annual growth [3]	
			Cords per acre	
Group 1: Deep, moderately well drained to well drained soils. AIm, Lcm.	Loblolly pine	102	1. 8	Plant competition, severe. Equipment limitation, moderate.
	Shortleaf pine	86	1. 7	
	Sweetgum	90	1. 7	
	Red oak	80	. 7	
	White oak	80	. 7	
Group 2: Deep, well-drained, moderately permeable soils on uplands. DgB2, DgC2, LdB2, LdC2, LdD2, LdE2, LgE.	Loblolly pine	82	1. 3	Plant competition, moderate on moderate slopes; severe on slopes of more than 12 percent. Erosion hazard, moderate to severe.
	Shortleaf pine	71	1. 4	
Group 3: Deep, well drained to moderately well drained soils on stream terraces; permeability is moderate to moderately slow. AkB, WgB2.	Loblolly pine	75	1. 2	Seedling mortality, moderate. Erosion hazard, slight to moderate.
	Shortleaf pine	68	1. 4	
Group 4: Severely eroded to very severely eroded, deep, well-drained soils on uplands; sandy clay loam to clay surface layer. AnB3, AnC3, AnD3, CZB3, CZC3, CZD3, CZE3, CZC4, CZD4, DpB3, DpC3, DpD3, LeB3, LeC3, LeD3, LeE3, LeF3, LeC4, LeD4, MIB3, MIC3, MID3, MIE3.	Loblolly pine	74	1. 2	Equipment limitation, moderate to severe. Seedling mortality, moderate. Erosion hazard, moderate to very severe.
	Shortleaf pine	66	1. 3	
Group 5: Well-drained to somewhat excessively drained soils on uplands; depth to bedrock ranges from a few inches to many feet; permeability is moderately slow to rapid. AxA, AxB, AxB2, AxC2, AxD2, CdB, CdB2, CdC2, CdD2, CdE2, DiA, DjB, LCB, LCC, LCD, LCE2, LDC, LDE, LDF.	Loblolly pine	78	1. 3	Seedling mortality, slight to moderate. Drought hazard, slight to moderate. Erosion hazard, slight to severe. Equipment limitation, slight to severe.
	Shortleaf pine	69	1. 4	
Group 6: Deep, somewhat poorly drained to poorly drained, slowly permeable soils around the head of drains, in depressions on uplands, and at the base of slopes. CiB, CiC2, WmB.	Loblolly pine	75	1. 2	Plant competition, moderate. Seedling mortality, moderate. Windthrow hazard, moderate. Equipment limitation, moderate. Erosion hazard, moderate on steeper slopes.
	Shortleaf pine	66	1. 3	
Group 7: Somewhat excessively drained soil on uplands; low available moisture capacity. LjF.	Loblolly pine	63	1. 0	Equipment limitation, severe. Seedling mortality, severe. Drought hazard, severe. Erosion hazard, very severe. Windthrow hazard, moderate.
	Shortleaf pine	55	1. 0	
Group 8: Somewhat poorly drained to poorly drained soils on first bottoms and stream terraces. Alp, Avp, Afs, Csl, Wea.	Loblolly pine	88	1. 5	Plant competition, severe. Equipment limitation, severe. Seedling mortality, moderate.
	Shortleaf pine	79	1. 6	

[1] Species of greatest commercial value.
[2] Average height of dominant trees at 50 years of age.
[3] Annual growth to age 35. Adapted from USDA Misc. Pub. No. 50 (*8*), USDA Tech. Bul. 560 (*9*), and USDA Southern Forest Expt. Sta. Occ. Paper No. 54 (*6*).

moderate to severe, proper ground cover should be maintained. Drought is not a hazard.

WOODLAND SUITABILITY GROUP 3

This group consists of deep, moderately well drained and well drained soils on stream terraces. Permeability is moderately slow and moderate. The soils are—

AkB Altavista fine sandy loam, 2 to 6 percent slopes.
WgB2 Wickham fine sandy loam, 2 to 6 percent slopes, eroded.

The average site index is 75 for loblolly pine and 68 for shortleaf pine.

Competition from brush and other undesirable plants is slight. Generally, the undesirable plants do not impede to any great extent, regeneration and growth of desirable trees.

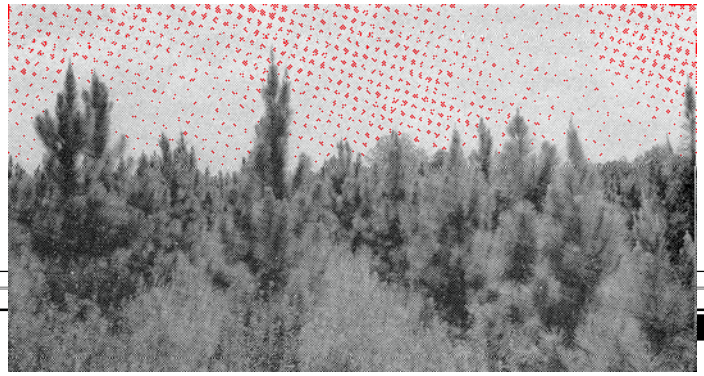
The equipment limitation is slight. All commonly used equipment can be operated throughout the year.

The seedling mortality is moderate. Ordinarily, losses of between 25 and 50 percent of planted stock may be expected, and some replanting may be required. Natural regeneration cannot always be relied upon for restocking. To assure adequate and immediate restocking by natural means, special treatment is usually needed.

The erosion hazard is slight to moderate, depending on the slope and on past erosion, but its control should not be

overlooked in planning management practices. Slight to moderate drought damage can be expected after an extended dry period.

Windthrow is not a problem.



WOODLAND SUITABILITY GROUP 4

This group consists of severely eroded to very severely eroded, deep, well-drained soils on uplands. Their surface layer ranges from sandy clay loam to clay. Permeability is moderately slow to moderate. The slope range is 2 to

drains, in depressions on uplands, and at the base of slopes. The soils are—

CiB Colfax sandy loam, 2 to 6 percent slopes.
CiC2 Colfax sandy loam, 6 to 10 percent slopes, eroded.
WmB Worsham soils, 2 to 6 percent slopes.

The average site index is 75 for loblolly pine and 66 for shortleaf pine.

Plant competition is moderate. Inadequate drainage promotes invasion by many undesirable species. The invaders usually do not prevent regeneration but may delay restocking and retard growth, unless controlled.

Seedling mortality is moderate because of a shallow root zone and a slowly permeable subsoil. Normally, losses of between 25 and 50 percent may be expected, and replanting may be required to fill in openings. Natural regeneration cannot always be relied upon.

The equipment limitation and the windthrow hazard are moderate because of the inadequate drainage and the shallow root zone.

The erosion hazard is moderate on the steepest slopes.

WOODLAND SUITABILITY GROUP 7

Louisa fine sandy loam, 15 to 45 percent slopes (LjF), is the only soil in this group. It is a somewhat excessively drained soil on uplands. The root zone is shallow to deep, the available moisture capacity is low, and permeability is moderately rapid.

The average site index is 63 for loblolly pine and 55 for shortleaf pine.

Plant competition is slight.

The equipment limitation is severe because of the steep slopes and the erosion hazard.

Seedling mortality is severe, especially where the root zone is shallow. If drought occurs, more than 50 percent mortality may be expected.

The drought hazard is severe. Considerable mortality may be expected among the larger trees following a long dry period.

The erosion hazard is very severe. To control erosion, an adequate ground cover should be maintained, but the rocky subsoil may limit root development.

The windthrow hazard is moderate.

WOODLAND SUITABILITY GROUP 8

This group consists of somewhat poorly drained and poorly drained soils on first bottoms and low stream terraces. Because of the level to nearly level topography, a high water table, and inadequate drainage outlets, excessive moisture is a problem on much of the acreage. The soils are—

Alp Alluvial land, moderately wet.
Avp Alluvial land, wet.
Afs Augusta fine sandy loam.
Csl Chewacla silt loam.
Wea Wehadkee silt loam.

The average site index is 88 for loblolly pine and 79 for shortleaf pine. Excessive moisture prevents the establishment of more than a partial stand of pine on these soils. Hardwoods are generally better suited than pines.

The excessive moisture promotes invasion and growth of many undesirable species; thus, plant competition is severe. Control of the invaders is necessary before a desired stand can become established.

The equipment limitation is severe. Heavy or frequent rains prevent the operation of logging equipment for long periods.

Seedling mortality is moderate because of the excessive moisture. In some years, 25 to 50 percent of naturally occurring seedlings die; thus, the development of fully stocked stands is delayed or prevented.

The windthrow hazard is slight to moderate. Because the excessive moisture limits root development, some species may be damaged during windy periods.

Erosion and drought are not problems.

Protective practices

Grazing, fire, insects, and disease damage or destroy trees and reduce the amount of wood products harvested.

Heavy grazing not only destroys seedlings and damages trees but also makes the soil more likely to erode and less likely to take in and store water. Uncontrolled grazing is particularly harmful on steep or eroded woodland. If such areas must be used for grazing, the livestock should be distributed so that not more than 40 percent of the low-growing cover is eaten. Grazing is less harmful to woodland in April, May, and June than it is at other times, because more forage is available in those months. Cattle generally damage trees less than other grazing animals do.

Fire not only kills seedlings, young trees, and some of the larger trees but also destroys humus and litter and thereby increases the hazard of erosion. Firebreaks help protect wooded areas by checking or stopping fires. A firebreak may be a road in the woods or a plowed or disked fire lane. At a firebreak, the firefighters can start a backfire, which is a fire set to counter an advancing fire. Firebreaks should tie into streams, ponds, public roads, utility rights-of-way, or other barriers.

Serious losses from diseases and insects are not likely on woodland in Walton County; however, to avoid possible damage from insects, cuttings should be made in fall or winter. The woodland should be logged with care, so that the trees left standing are not scarred and made more susceptible to disease.

Wildlife and Fish [5]

Most of the soils in Walton County are suited to, and support, one or more kinds of wildlife. Some species spend most or all of their time in woods; others prosper in open farmlands; and some require a water habitat. Some eat only insects and other animal foods; some, only vegetative foods; and others, a combination of the two.

Bobwhites, mourning doves, rabbits, squirrels, fox, opossums, raccoons, and many nongame birds are common throughout the county. Most farms have suitable sites for fishponds. Deer and wild turkeys require extensive, well-watered woodlands, such as the area in the southwestern corner of the county and the large wooded areas on and adjacent to the flood plains. The long, narrow bottom lands, which are distributed along streams throughout the county, are well suited to wild ducks and beavers. Beaver dams are common in many of these areas.

A summary of the food and habitat needs of the important kinds of wildlife in Walton County follows.

BEAVER.—Beavers eat only vegetation, mostly bark, roots, and green plants. Tender bark or the cambium

[5] VERNE E. DAVISON, biologist, Soil Conservation Service, assisted in the preparation of this subsection.

of alder, ash, birch, cottonwood, maple, pine, sweetgum, and willow are their principal tree-foods. Beavers also eat honeysuckle, grass, acorns, corn, weeds, and the tender shoots of elder. The chief feeding areas are within 150 feet of water.

BOBWHITE.—Choice foods include acorns, beechnuts, blackberries, browntop millet, wild black cherries, corn, cowpeas, dewberries, flowering dogwood, annual lespedeza, bicolor lespedeza, mulberries, pecans, pine, common ragweed, sweetgum, and tickclover. Bobwhite also eat many insects. The food must be close to vegetation that provides shade and protection from predators and from adverse weather.

DEER.—Choice foods include acorns, bahiagrass, clover, cowpeas, greenbrier, honeysuckle, annual lespedeza, bicolor lespedeza, oats, fescue, [illegible], and [illegible]

can obtain practical help in planning and establishing food supply and habitat for the kinds of wildlife or fish he wishes to favor.

Wildlife suitability groups

The soils in Walton County have been placed in nine wildlife suitability groups. All the soils in one group are estimated to have similar capacity to produce food and cover for wildlife. These groups are discussed in the following pages.

Table 10 lists the important food plants in the county and rates them as *choice, fair,* or *unimportant* as foods for the given kinds of wildlife. Table 11 lists the same plants and rates them as *suited, marginally suited,* or *poorly suited* to the soils in the nine suitability groups.

[redacted]

TABLE 10.—*Suitability of plants as food for wildlife*

[The figure *1* indicates that the plant is *choice* (attractive and nutritious for a given kind of wildlife); the figure *2*, *fair* (eaten when choice foods are unavailable); the figure *3*, *unimportant* (eaten only in small amounts)]

Plant	Part of plant eaten	Bobwhite	Deer	Dove	Duck	Rabbit	Squirrel	Turkey	Nongame birds [1]		
									Fruit eaters	Grain and seed eaters	Nut and acorn eaters
Bahiagrass	Forage	3	1	3	3	3	3	3	3	3	3
	Seed	2	3	2	3	3	3	1	3	2	3
Beech	Nut	1	2	3	1	3	1	1	3	3	1
Blackberry	Fruit	1	3	3	3	3	2	1	1	3	3
	Forage	3	2	3	3	3	3	3	3	3	3
Blackgum	Fruit	2	3	3	3	3	1	2	1	3	2
Browntop millet	Seed	1	3	1	1	3	3	1	3	1	3
Buttonclover	Forage	2	1	3	3	1	3	1	3	3	3
Cherry, black	Fruit	1	3	3	3	3	1	2	1	3	2
Clover, crimson	Forage	2	1	3	3	1	3	1	3	3	3
Clover, white	Forage	2	1	3	3	1	3	1	3	3	3
Corn	Seed	1	1	1	1	1	1	1	3	1	2
Cowpeas	Seed	1	1	2	3	1	3	1	3	1	3
Dewberry	Fruit	1	3	3	3	2	2	1	1	3	3
Dogwood, flowering	Fruit	1	3	3	3	3	1	1	1	3	3
Fescue, tall	Forage	3	2	3	3	2	3	2	3	3	3
Grapes, wild	Fruit	3	3	3	3	3	2	1	1	3	3
Greenbrier	Forage	3	1	3	3	1	3	3	3	3	3
Hackberry	Fruit	2	3	3	3	3	2	1	1	3	3
Hickory	Nuts	3	3	3	3	3	1	2	3	3	1
Honeysuckle	Forage	3	1	3	3	2	3	3	3	3	3
Japanese millet	Seed	1	3	1	1	3	3	2	3	1	3
Lespedeza, annual	Forage	3	1	3	3	2	3	3	3	3	3
	Seed	1	3	2	3	3	3	2	3	3	3
Lespedeza, bicolor	Forage	3	1	3	3	2	3	3	3	3	3
	Seed	1	3	3	3	3	3	3	3	3	3
Lespedeza, sericea	Seed	3	3	3	3	3	3	3	3	3	3
Mulberry	Fruit	1	2	3	3	3	1	1	1	3	3
Oak	Acorns	1	1	3	1	3	1	1	3	3	1
Oats	Forage	3	1	3	3	1	3	1	3	3	3
Pecan	Nut	1	2	3	3	3	1	1	3	3	1
Pine	Seed	1	3	1	3	3	1	1	3	1	1
Ragweed, common	Seed	1	3	1	3	3	3	3	3	1	3
Rescuegrass	Forage	3	1	3	3	1	3	1	3	3	3
Ryegrass	Forage	3	1	3	3	1	3	1	3	3	3
Smartweed	Seed	3	3	3	1	3	3	3	3	3	3
Sorghum, grain [2]	Seed	1	1	1	1	1	1	1	3	1	3
Sweetgum	Seed	1	3	1	3	3	2	2	3	1	3
Tickclover (beggarlice)	Seed	1	3	3	3	3	3	2	3	3	3
Wheat	Forage	3	1	3	3	1	3	1	3	3	3

[1] Fruit eaters include bluebirds, catbirds, mockingbirds, and waxwings. Grain and seed eaters include blackbirds, cardinals, meadowlarks, sparrows, and towhees. Nut and acorn eaters include chickadees, grackles, bluejays, titmice, and woodpeckers.

[2] Grain sorghum is a choice food of most wildlife that feed on grain. It is limited in value and suitability because the humid climate causes it to rot and because it attracts blackbirds, cowbirds, sparrows, and other undesirable birds.

These soils are extensive and are distributed throughout the county. Most of the acreage is wooded. Because of the slope, these soils are not suited to annual plants. They are marginal for perennial grass, lespedeza, and some woody plants. They are suited to blackgum, wild black cherry, flowering dogwood, hickory, and pine. Many drains in these areas are favorable sites for ponds.

WILDLIFE SUITABILITY GROUP 3

This group consists of deep, well-drained, severely eroded soils on uplands. The slope range is 2 to 10 percent. The surface layer is 5 to 7 inches thick and ranges in texture from sandy clay loam to clay. The subsoil is sandy clay loam to clay. Plant roots can penetrate effectively to a depth of 36 inches or more. Tilth is poor. Permeability is moderate to moderately slow, and the available moisture capacity is moderately high. The soils are—

Appling sandy clay loam, 2 to 6 percent slopes, severely eroded.
Appling sandy clay loam, 6 to 10 percent slopes, severely eroded.
Cecil sandy clay loam, 2 to 6 percent slopes, severely eroded.
Cecil sandy clay loam, 6 to 10 percent slopes, severely eroded.
Davidson clay, 2 to 6 percent slopes, severely eroded.
Davidson clay, 6 to 10 percent slopes, severely eroded.
Lloyd clay loam, 2 to 6 percent slopes, severely eroded.
Lloyd clay loam, 6 to 10 percent slopes, severely eroded.
Madison sandy clay loam, 2 to 6 percent slopes, severely eroded.
Madison sandy clay loam, 6 to 10 percent slopes, severely eroded.

TABLE 11.—*Suitability of plants to soils, by wildlife suitability groups*

[The figure *1* indicates that the plant is *suited* to the soils in the given soil groups; the figure *2, marginally suited;* the figure *3, poorly suited* or *not suited*]

Plants	Wildlife suitability group—								
	1	2	3	4	5	6	7	8	9
Bahiagrass	1	3	2	3	2	3	1	2	3
Beech	2	2	3	3	3	2	1	2	3
Blackberry	1	1	2	3	2	2	1	1	3
Blackgum	1	1	3	3	3	3	1	1	3
Browntop millet	1	3	2	3	2	3	1	1	3
Buttonclover	1	3	2	3	3	3	1	2	3
Cherry, black (wild)	1	1	3	3	2	2	1	2	3
Clover, crimson	1	3	2	3	2	3	1	2	3
Clover, white	1	3	3	3	3	3	1	1	2
Corn	1	3	2	3	2	3	1	2	3
Cowpeas	1	3	2	3	2	3	1	2	3
Dewberry	1	2	2	2	2	3	2	2	3
Dogwood, flowering	1	1	2	3	1	2	1	2	3
Fescue, tall	1	2	2	3	3	3	1	1	2
Grapes, wild	1	1	2	2	2	2	1	2	3
Greenbrier	1	2	2	2	2	2	1	2	3
Hackberry	1	2	2	3	3	3	1	2	3
Hickory	1	1	3	3	2	2	1	2	3
Honeysuckle	1	3	2	3	3	3	1	2	3
Japanese millet	1	3	3	3	3	3	1	1	1
Lespedeza, annual	1	2	1	2	2	3	1	2	3
Lespedeza, bicolor	1	2	1	2	2	3	1	3	3

trate effectively to a depth of 36 inches or more, except in areas that are gullied or very severely eroded. Tilth is poor. The available moisture capacity is low to moderate. Water moves slowly into the soil. Permeability in the subsoil is moderate to moderately slow. The soils are—

Appling sandy clay loam, 10 to 15 percent slopes, severely eroded.
Cecil sandy clay loam, 10 to 15 percent slopes, severely eroded.
Cecil sandy clay loam, 15 to 25 percent slopes, severely eroded.
Cecil-Gullied land complex, 6 to 10 percent slopes.
Cecil-Gullied land complex, 10 to 15 percent slopes.
Davidson clay, 10 to 15 percent slopes, severely eroded.
Gullied land.
Lloyd clay loam, 10 to 15 percent slopes, severely eroded.
Lloyd clay loam, 15 to 25 percent slopes, severely eroded.
Lloyd clay loam, 25 to 45 percent slopes, severely eroded.
Lloyd-Gullied land complex, 6 to 10 percent slopes.
Lloyd-Gullied land complex, 10 to 15 percent slopes.
Madison sandy clay loam, 10 to 15 percent slopes, severely eroded.
Madison sandy clay loam, 15 to 25 percent slopes, severely eroded.

These soils are extensive throughout the county. Most of the acreage has been cultivated in the past, but now much of it is reverting to pine. Because of severe erosion and moderate to steep slopes, vegetation is difficult to establish and maintain. Generally, these soils are not suited to plants that can provide food for wildlife. They are marginal for lespedeza, pine, and tickclover. Many drains in these areas are favorable

only to hickory, oak, and a few other plants that provide food for wildlife. Because they are stony and shallow, these soils are unsuitable for pond sites. Permanent streams and springs are scarce in some areas.

WILDLIFE SUITABILITY GROUP 7

This group consists of deep, well drained and moderately well drained soils around the head of drainageways or on first bottoms along creeks. The areas on first bottoms are flooded occasionally for short periods, usually less than 2 days. The surface layer is loamy sand to silt loam and is 5 to 10 inches thick. The underlying material is predominantly sandy loam. These soils are easily worked. Plant roots can penetrate effectively to a depth of 30 inches or more. The available moisture capacity is high. The soils are—

Alluvial land.

[redacted]

Small areas of these soils are scattered throughout the county. Much of the acreage is cultivated or is used as plants to which these soils are suited. Most areas can be flooded for use as duck fields. Water can be impounded, or ponds can be dug.

Engineering Characteristics of the Soils [6]

Some soil properties are of special interest to the engineer because they affect construction and maintenance of roads, airports, pipelines, building foundations, structures for water storage, structures for controlling erosion, drainage systems, and sewage disposal systems. The soil properties most important to the engineer are permeability to water, shear strength, drainage, grain size, plasticity, and pH. Compaction characteristics, shrink-swell characteristics, depth to water table, depth to bedrock, and topography are perhaps almost as important.

The characteristics of the soils in Walton County are described in detail in the section "Descriptions of the Soils." Those characteristics that affect engineering are interpreted in this section for engineers and others con-

[redacted]

soils that have low strength when wet. Tables 12 and 13 show these groups. Within each group the relative engineering value of the soil material is indicated by a group index number. The numbers range from 0 for the best material to 20 for the poorest. Table 12, in the next to last column, shows the group index numbers of the soils tested. The numbers are in parentheses following the AASHO soil group symbol.

The Unified Soil Classification system is preferred by some engineers and by some agencies in engineering work. This system classifies soil material as coarse grained (eight classes), fine grained (six classes), or highly organic (one class).

at which the material changes from plastic to liquid. The *plasticity index* is the numerical difference between the liquid limit and the plastic limit. It indicates the range of moisture content within which the soil material is plastic.

Engineering descriptions and physical properties

Table 13 gives estimates of some of the soil characteristics significant in engineering, and the engineering classification of the soil material in the principal horizons. All of the mapping units are listed in this table except Gullied land and Rock outcrop, which are miscellaneous

TABLE 12—*Engineering*

[Tests performed by State Highway Department of Georgia in cooperation with U.S. Department of Commerce, Bureau of Public

Soil name and location of sample	Parent material	Georgia report No.	Depth	Horizon	Moisture-density data [1]		Mechanical analysis [2]		
							Volume change [3]		
					Maximum dry density	Optimum moisture	Shrinkage	Swell	Total volume change
		S59 & 60Ga-147-	*In.*		*Lb. per cu. ft.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
Cecil sandy clay loam:									
7.5 miles NE. of Monroe and 4 miles N. of Good Hope. (Ortho)	Granite, gneiss, and schist.	5-1	0 to 6	Ap	116	13	5.9	1.3	7.2
		5-3	15 to 34	B21	94	25	11.3	4.1	15.4
		5-6	55 to 72+	C	99	21	8.0	9.2	17.2
0.5 mile NE. of Gratis. (Clayey B and C horizons)	Granite, gneiss, and schist.	12-1	0 to 9	Ap	102	20	9.7	2.3	12.0
		12-2	9 to 27	B2	92	26	12.7	4.3	17.0
		12-4	45 to 73+	C	94	23	8.0	7.9	15.9
1.5 miles E. of Loganville. (No mica)	Granite, gneiss, and schist.	4-1	0 to 6	Ap	113	16	11.1	1.2	12.3
		4-3	11 to 24	B2	100	23	11.6	1.9	13.5
		4-5	40 to 66+	C	106	17	8.1	9.5	17.6
Chewacla silt loam:									
2.7 miles E. of Loganville. (Ortho)	Recent alluvium	2-1	0 to 9	Ap	114	14	8.7	.8	9.5
		2-4	27 to 41	C13	118	11	1.6	2.1	3.7
		2-5	41 to 55+	C14	118	13	7.8	5.9	13.7
1.5 miles W. of Monroe. (Browner than ortho profile)	Recent alluvium	1-1	0 to 9	1	95	25	14.4	1.8	16.2
		1-4	26 to 41	4	107	17	8.9	5.2	14.1
		1-5	41 to 61+	5	101	17	6.9	8.8	15.7
4 miles SW. of Between and 4.5 miles SE. of Loganville. (Sandier than ortho profile)	Recent alluvium	3-1	0 to 6	1	96	22	1.3	14.8	16.1
		3-4	16 to 38	4	110	15	6.5	2.6	9.1
Louisburg stony loamy coarse sand:									
100 yards W. of fire tower on Jacks Creek Mountain, 6 miles NE. of Monroe. (Ortho)	Quartzite	8-1	0 to 6	A1	125	12	-------	-------	-------
		8-3	11 to 32	C	122	11	0	.4	.4
0.5 mile NE. of Jacks Creek Mountain, 6.5 miles NE. of Monroe. (Yellowish-red BC horizon)	Quartzite	10-1	0 to 5	A1	127	8	1.0	2.7	3.7
		10-3	14 to 23	A3	128	10	2.3	3.2	5.5
		10-5	29 to 50+	C	104	18	6.5	5.7	12.2
0.5 mile W. of Jacks Creek Mountain, 5 miles NE. of Monroe. (Red BC horizon)	Quartzite and schist	9-1	0 to 5	A1	105	14	4.4	3.9	8.3
		9-3	8 to 25	BC	92	21	10.3	3.5	13.8
		9-4	25 to 65+	C	101	19	6.4	19.5	25.9
Lloyd clay loam:									
4 miles NE. of Between and 4 miles SE. of Bold Spring. (Ortho)	Acidic and basic rock.	15-1	0 to 6	Ap	119	13	5.0	2.7	7.7
		15-2	6 to 30	B2	99	22	7.4	.5	7.9
		15-4	37 to 63+	C	108	18	8.0	4.7	12.7
2.5 miles NE. of Between and 5 miles SE. of Bold Spring. (Clayey B horizon)	Acidic and basic rock.	14-1	0 to 6	Ap	110	16	9.6	3.2	12.8
		14-2	6 to 36	B2	103	21	6.7	2.8	9.5
		14-4	50 to 72+	C	106	18	7.6	3.2	10.8
1.5 miles SE. of Gratis and 7.5 miles NE. of Monroe. (Less clayey B2 horizon)	Acidic and basic rock.	11-1	0 to 6	Ap	117	18	7.9	.5	8.4
		11-2	6 to 21	B2	88	30	14.5	3.8	18.3
		11-4	36 to 76+	C	93	24	4.3	7.2	11.5
Madison sandy clay loam:									
2 miles NW. of Gratis and 3.5 miles NE. of Campton. (Ortho)	Gneiss and schist	13-1	0 to 7	Ap	118	13	3.7	1.7	5.4
		13-2	7 to 19	B2	94	27	10.8	2.1	12.9
		13-4	24 to 77	C	103	19	6.9	7.5	14.4

See footnotes at end of table.

test data

Roads, in accordance with standard procedures of American Association of State Highway Officials, except as stated in footnote 3]

Mechanical analysis [2]—Continued										Liquid limit	Plasticity index	Classification	
Percentage passing sieve—[4]						Percentage smaller than—[4]							
3-in.	¾-in.	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	0.05 mm.	0.02 mm.	0.005 mm.	0.002 mm.			AASHO [5]	Unified [6]
100	99	98	94	68	38	35	34	27	26	23	6	A-4(1)	SM-SC.
------	------	100	99	87	75	74	71	60	57	54	22	A-7-5(16)	MH.
------	------	------	100	82	68	65	56	39	35	47	(7)	A-5(8)	ML.
100	98	93	87	77	55	52	47	40	36	34	13	A-6(5)	CL.
------	------	100	99	95	76	74	70	55	50	51	(7)	A-5(10)	MH.
------	------	------	100	88	60	57	49	33	27	49	(7)	A-5(6)	ML.
------	------	100	98	75	45	44	41	35	32	23	7	A-4(2)	SM-SC.
------	------	------	100	88	73	72	67	56	54	46	15	A-7-5(11)	ML.
------	------	------	100	83	54	52	41	34	32	39	(7)	A-4(4)	ML.
------	100	99	96	81	47	44	42	24	17	24	6	A-4(2)	SM-SC.
------	------	100	99	70	35	31	25	19	16	(8)	(8)	(8)	(8).
------	------	100	99	73	45	43	37	28	23	25	7	A-4(2)	SM-SC.
------	------	100	99	97	85	82	71	46	31	40	13	A-6(9)	ML-CL.
------	100	99	97	82	56	52	44	30	22	30	9	A-4(4)	ML-CL.
------	100	96	90	75	50	47	40	26	18	31	11	A-6(3)	SC.
------	------	------	100	92	72	66	63	40	23	51	23	A-7-6(15)	MH-CH.
------	------	------	100	84	55	50	41	28	22	25	7	A-4(4)	ML-CL.
[9] 100	70	49	42	25	14	12	9	5	4	(7)	(7)	A-1-a(0)	GM.
100	75	50	34	17	9	8	6	4	3	(7)	(7)	A-1-a(0)	GW-GM.
[10] 100	88	64	57	43	24	20	16	9	8	(7)	(7)	A-1-b(0)	SM.
[10] 100	80	65	52	37	26	25	21	15	11	21	7	A-2-4(0)	SM-SC.
100	98	93	87	73	59	57	54	46	40	44	15	A-7-6(7)	ML.
100	90	78	69	44	27	26	21	12	7	37	(7)	A-2-4(0)	SM.
------	100	99	95	80	68	67	65	59	51	67	32	A-7-5(18)	MH.
100	99	98	94	64	46	44	37	21	16	44	(7)	A-5(2)	SM.

TABLE 12—*Engineering*

Soil name and location of sample	Parent material	Georgia report No.	Depth	Horizon	Moisture-density data [1]		Mechanical analysis [2]		
							Volume change [3]		
					Maximum dry density	Optimum moisture	Shrinkage	Swell	Total volume change
		S59 & 60Ga-147-	*In.*		*Lb. per cu. ft.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
0.7 mile NW. of Gratis and 3 miles NE. of Campton. (Clayey B2 horizon)	Granite, gneiss, and schist.	7-1	0 to 6	Ap	121	11	3.1	.1	3.2
		7-3	10 to 21	B2	91	28	9.6	4.3	13.9
		7-5	31 to 46	C	101	20	5.1	10.6	15.7
3 miles SW. of Monroe and 6.5 miles SE. of Between. (Thicker and less clayey B horizon)	Gneiss and schist	6-1	0 to 6	Ap	104	18	8.7	4.3	13.0
		6-3	12 to 28	B2	90	29	13.6	.6	14.2
		6-5	40 to 80+	C	99	20	4.6	16.7	21.3

[1] Based on Moisture-Density Relations of Soils Using a 5.5-lb. Rammer and a 12-in. Drop, AASHO Designation: T 99–57, Methods A and C (*2*).

[2] Mechanical analysis according to the AASHO Designation: T 88. Results by this procedure frequently differ somewhat from results obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHO procedure, the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on the basis of all the material including that coarser than 2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method and the material coarser than 2 millimeters in diameter is excluded from calculations of grain-size fractions. The mechanical analysis data used in this table are not suitable for naming textural classes of soils.

[3] Based on A System of Soil Classification by W. F. Abercrombie: Proceedings, Highway Research Board, 1954 (*1*).

test data—Continued

Mechanical analysis [2]—Continued										Liquid limit	Plasticity index	Classification	
Percentage passing sieve—[4]						Percentage smaller than—[4]							
3-in.	¾-in.	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	0.05 mm.	0.02 mm.	0.005 mm.	0.002 mm.			AASHO [5]	Unified [6]
	100	96	90	66	35	33	30	22	20	(7)	(7)	A-2-4(0)	SM

TABLE 13.—*Brief description of the soils, and*

[See table 12 for test data on Cecil sandy clay loam, Chewacla silt loam, Lloyd

Map symbol	Soil	Brief description	Depth from surface
			Inches
Alm Alp	Alluvial land (0 to 2 percent slopes). Alluvial land, moderately wet (0 to 2 percent slopes).	Moderately well drained to wet, mixed alluvium on first bottoms; subject to flooding; soil materials are dominantly sandy loam, silt loam, and loamy sand. Depth to bedrock more than 5 feet.	0 to 36 [1]
Avp	Alluvial land, wet (0 to 2 percent slopes).	Seasonal high water table at depth of less than 1 foot.	
AkB	Altavista fine sandy loam, 2 to 6 percent slopes.	Moderately well drained soil developed in old alluvium on stream terraces; the uppermost 6 to 12 inches of fine sandy loam or sandy loam overlies about 2 feet of friable to firm sandy clay loam; beneath this is variable old alluvium. Depth to bedrock 15 feet or more. Seasonally high water table at depth of about 2 feet.	0 to 12 12 to 37 37 to 44+
AxA	Appling coarse sandy loam, 0 to 2 percent slopes.	Well-drained soils on uplands; formed in materials weathered from granite, gneiss, and coarse-grained schist; the uppermost 5 to 20 inches of coarse sandy loam or sandy clay loam overlies 2 to 3 feet of mottled, firm clayey material. Depth to bedrock 3 to 20 feet. Seasonal high water table at depth of more than 15 feet.	0 to 8
AxB	Appling coarse sandy loam, 2 to 6 percent slopes.		8 to 17
AxB2	Appling coarse sandy loam, 2 to 6 percent slopes, eroded.		17 to 30
AxC2	Appling coarse sandy loam, 6 to 10 percent slopes, eroded.		30 to 42
AxD2	Appling coarse sandy loam, 10 to 15 percent slopes, eroded.		
AnB3	Appling sandy clay loam, 2 to 6 percent slopes, severely eroded.		
AnC3	Appling sandy clay loam, 6 to 10 percent slopes, severely eroded.		
AnD3	Appling sandy clay loam, 10 to 15 percent slopes, severely eroded.		
Afs	Augusta fine sandy loam (0 to 2 percent slopes).	Somewhat poorly drained soil developed in old alluvium on low stream terraces; the uppermost 7 to 14 inches of fine sandy loam and sandy loam overlies about 2 feet of friable sandy clay loam to firm sandy clay that is slowly permeable; beneath this is variable alluvium. Depth to bedrock more than 15 feet. Seasonal high water table at depth of less than 1 foot.	0 to 11 11 to 34 34 to 44+

their estimated physical properties

clay loam, Louisburg stony loamy coase sand, and Madison sandy clay loam]

Classification			Percentage passing sieve—			Permeability	Available water capacity	Reaction	Shrink-swell potential
Dominant USDA texture	Unified	AASHO	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 200 (0.074 mm.)				
						Inches per hour	*Inches per inch of soil*	*pH value*	
Sandy loam, silt loam, and loamy sand.	SM, ML	A–2, A–4	95 to 100	95 to 100	25 to 60	0.05 to 10.0	0. 14	4.5 to 5.5	Low.
Fine sandy loam	SM	A–2	95 to 100	95 to 100	25 to 35	5.0 to 10.0	. 12	5.6 to 6.0	Low.
Sandy clay loam	ML, CL	A–6, A–7	95 to 100	95 to 100	50 to 60	0.2 to 0.8	. 13	4.5 to 5.5	Moderate.
Sandy clay loam	SM, SC	A–4, A–6	95 to 100	95 to 100	35 to 50	0.2 to 0.8	. 10	4.5 to 5.0	Low to moderate.
Coarse sandy loam.	SM	A–2	95 to 100	90 to 100	20 to 35	5.0 to 10.0	. 12	4.5 to 5.0	Low.
Sandy clay loam	SC, CL	A–4	95 to 100	95 to 100	45 to 60	0.8 to 2.5	. 11	4.5 to 5.0	Moderate.
Clay	MH, ML, CL	A–7	95 to 100	95 to 100	60 to 75	0.2 to 0.8	. 13	4.5 to 5.0	Moderate to high.
Sandy clay loam	SM, SC, ML, CL.	A–4, A–6	95 to 100	95 to 100	40 to 60	0.2 to 0.8	. 11	4.0 to 4.5	Low to moderate.
Fine sandy loam	SM	A-2	95 to 100	95 to 100	25 to 35	2.5 to 5.0	. 12	4.5 to 5.0	Low.
Sandy clay loam or sandy clay.	MH, ML, CL	A–6, A–7	95 to 100	95 to 100	50 to 60	0.05 to 0.2	. 14	4.5 to 5.0	Moderate.
Sandy clay	MH, ML, CL	A–6, A–7	95 to 100	95 to 100	50 to 60	0.05 to 0.2	. 14	4.5 to 5.0	Moderate.
Coarse sandy loam.	SM	A–2, A–4	95 to 100	85 to 95	20 to 40	5.0 to 10.0	. 13	5.1 to 5.5	Low.
Sandy clay	MH, ML, CL	A–5, A–7	100	95 to 100	65 to 80	0.8 to 2.5	. 13	4.5 to 5.5	Moderate.
Sandy clay loam	MH, ML	A–5, A–7	100	95 to 100	50 to 70	0.8 to 2.5	. 13	4.5 to 5.0	Moderate.
Silt loam	ML, CL, SM, SC.	A–4, A–6	100	95 to 100	45 to 85	0.2 to 2.5	. 12	4.5 to 5.0	Low.
Silty clay loam	ML, CL, SM, SC.	A–4, A–6	100	95 to 100	35 to 55	0.2 to 2.5	. 14	4.5 to 5.0	Moderate.

TABLE 13.—*Brief description of the soils, and*

Map symbol	Soil	Brief description	Depth from surface
			Inches
CtB	Colfax sandy loam, 2 to 6 percent slopes	Somewhat poorly drained soils around the head of drainageways in	0 to 8

their estimated physical properties—Continued

Classification	Percentage passing sieve—		Available		Shrink-swell

TABLE 13.—*Brief description of the soils, and*

Map symbol	Soil	Brief description	Depth from surface
			Inches

their estimated physical properties—Continued

Classification			Percentage passing sieve—			Permeability	Available water capacity	Reaction	Shrink-swell potential
Dominant USDA texture	Unified	AASHO	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 200 (0.074mm.)				
						Inches per hour	*Inches per inch of soil*	*pH value*	
Loamy coarse sand. Partly disintegrated parent rock.	GM, SM	A–1, A–2	50 to 100	35 to 95	10 to 30	5.0 to 10.0	.08	5.1 to 5.5	Low.
Sandy clay loam.	SM, SC, CL	A–4, A–6	95 to 100	80 to 95	35 to 60	0.8 to 2.5	.12	4.5 to 5.0	Moderate.
Silty clay loam or silty clay.	MH, CH	A–7	100	95 to 100	70 to 85	0.8 to 2.5	.13	4.5 to 5.5	Moderate to high.

TABLE 14.—*Engineering*

Soil series and map symbols	Suitability as source of—			Soil features affecting [1]—		
	Topsoil	Sand	Road fill	Highway location	Farm ponds	
					Reservoir area	Embankment
Alluvial land (Alm).	Good	Poor to good	Fair to good	Seasonal high water table at a depth of less than 1 foot; subject to flooding.	Moderate to rapid permeability.	Poorly graded material in some areas.
Alluvial land, moderately wet. (Alp).	Good	Poor to fair	Fair to good	Seasonal high water table at a depth of less than 1 foot; subject to flooding.	Moderate to rapid permeability.	Poorly graded material in some areas.
Alluvial land, wet (Avp).	Poor; excess moisture.	Poor to fair; excess moisture.	Poor to fair; excess moisture.	Seasonal high water table at a depth of less than 1 foot; subject to flooding.	Soil properties are favorable.	Poorly graded material in some areas.
Altavista (AkB).	Good in surface layer.	Good in surface layer.	Good	Seasonal high water table at a depth of about 2 feet.	Soil properties are favorable.	Moderate strength and stability.
Appling (AxA, AxB, AxB2, AxC2, AxD2, AnB3, AnC3, AnD3).	Good in surface layer, except where severely eroded.	Good in surface layer except where severely eroded; poor to fair below.	Good	Shallow to bedrock in places.	Soil properties are favorable.	Moderate strength and stability.
Augusta (Afs).	Fair in surface layer; high water table.	Fair in surface layer.	Poor	Seasonal high water table at a depth of less than 1 foot.	Soil properties are favorable.	Moderate strength and stability.
Cecil (CdB, CdB2, CdC2, CdD2, CdE2, CZB3, CZC3, CZC4, CZD3, CZD4, CZE3).	Good in surface layer, except where severely eroded.	Fair in surface layer, except where severely eroded.	Fair	Slopes easily eroded in deep cuts.	Soil properties are favorable.	Moderate strength and stability.
Chewacla (Csl).	Good	Poor	Fair, except in places that have high water table.	Seasonal high water table at a depth of less than 1 foot; subject to flooding.	Soil properties are favorable.	Moderate strength and stability; generally high moisture content.
Colfax (CiB, CiC2).	Good in surface layer.	Fair in surface layer.	Poor to fair	Seasonal high water table at a depth of 0 to 5 feet.	Soil properties are favorable.	Generally high moisture content.
Davidson (DgB2, DgC2, DpB3, DpC3, DpD3).	Poor	Unsuitable	Fair	Slopes easily eroded in deep cuts.	Soil properties are favorable.	Moderate strength and stability.

See footnote at end of table.

interpretations

Soil features affecting [1]—Continued				
Agricultural drainage	Irrigation	Terraces	Waterways	Septic tank drainage fields
Seasonal high water table at a depth of less than 1 foot; needs simple surface drainage. Subsurface drainage satisfactory with adequate outlets.	Soil properties are favorable.	Terraces not needed; soil is level or nearly level.	Soil properties are favorable.	Seasonal high water table at a depth of less than 1 foot; subject to flooding.
Seasonal high water table at a depth of less than 1 foot; needs surface and subsurface drainage.	Somewhat poor drainage; seasonal high water table at a depth of less than 1 foot.	Terraces not needed; soil is level or nearly level.	Seasonal high water table at a depth of less than 1 foot.	Somewhat poor drainage; seasonal high water table at a depth of less than 1 foot; subject to flooding.
Moderate to slow permeability; seasonal high water table at a depth of less than 1 foot; needs surface and subsurface drainage.	Poor drainage; seasonal high water table at a depth of less than 1 foot.	Terraces not needed; soil is level or nearly level.	Seasonal high water table at a depth of less than 1 foot; poor drainage.	Poor drainage; seasonal high water table at a depth of less than 1 foot; subject to flooding.
Drainage not needed	Moderately slow permeability.	Soil properties are favorable.	Soil properties are favorable.	Moderately slow permeability; seasonal high water table at a depth of about 2 feet.
Drainage not needed	Moderately slow permeability; slow intake rate in severely eroded areas.	Soil properties are favorable where slope is less than 10 percent; steeper slopes unsuitable.	High erodibility	Moderately slow permeability.
Slow permeability; seasonal high water table at a depth of less than 1 foot; needs surface and subsurface drainage.	Somewhat poor drainage; seasonal high water table at a depth of less than 1 foot; slow permeability.	Terraces not needed; soil is level or nearly level.	Seasonal high water table at a depth of less than 1 foot.	Seasonal high water table at a depth of less than 1 foot; slow permeability.
Drainage not needed	Slow intake rate in severely eroded areas.	Soil properties are favorable where slope is less than 10 percent; steeper slopes unsuitable.	High erodibility	Soil properties are favorable.
Moderate to moderately slow permeability; seasonal high water table at a depth of less than 1 foot; needs surface and subsurface drainage.	Somewhat poor drainage; seasonal high water table at a depth of less than 1 foot.	Terraces not needed; soil is level or nearly level.	Seasonal high water table at a depth of less than 1 foot.	Somewhat poor drainage; seasonal high water table at a depth of less than 1 foot; subject to flooding.
Slow permeability; seasonal high water table at a depth of 0 to 5 feet; needs surface and subsurface drainage.	Somewhat poor drainage; slow permeability.	Terraces generally not feasible; areas are small and irregular.	Soil properties are favorable.	Somewhat poor drainage; seasonal high water table at a depth of 0 to 5 feet; slow permeability.
Drainage not needed	Slow intake rate in severely eroded areas.	Soil properties are favorable where slope is less than 10 percent; steeper slopes unsuitable.	High erodibility	Soil properties are favorable.

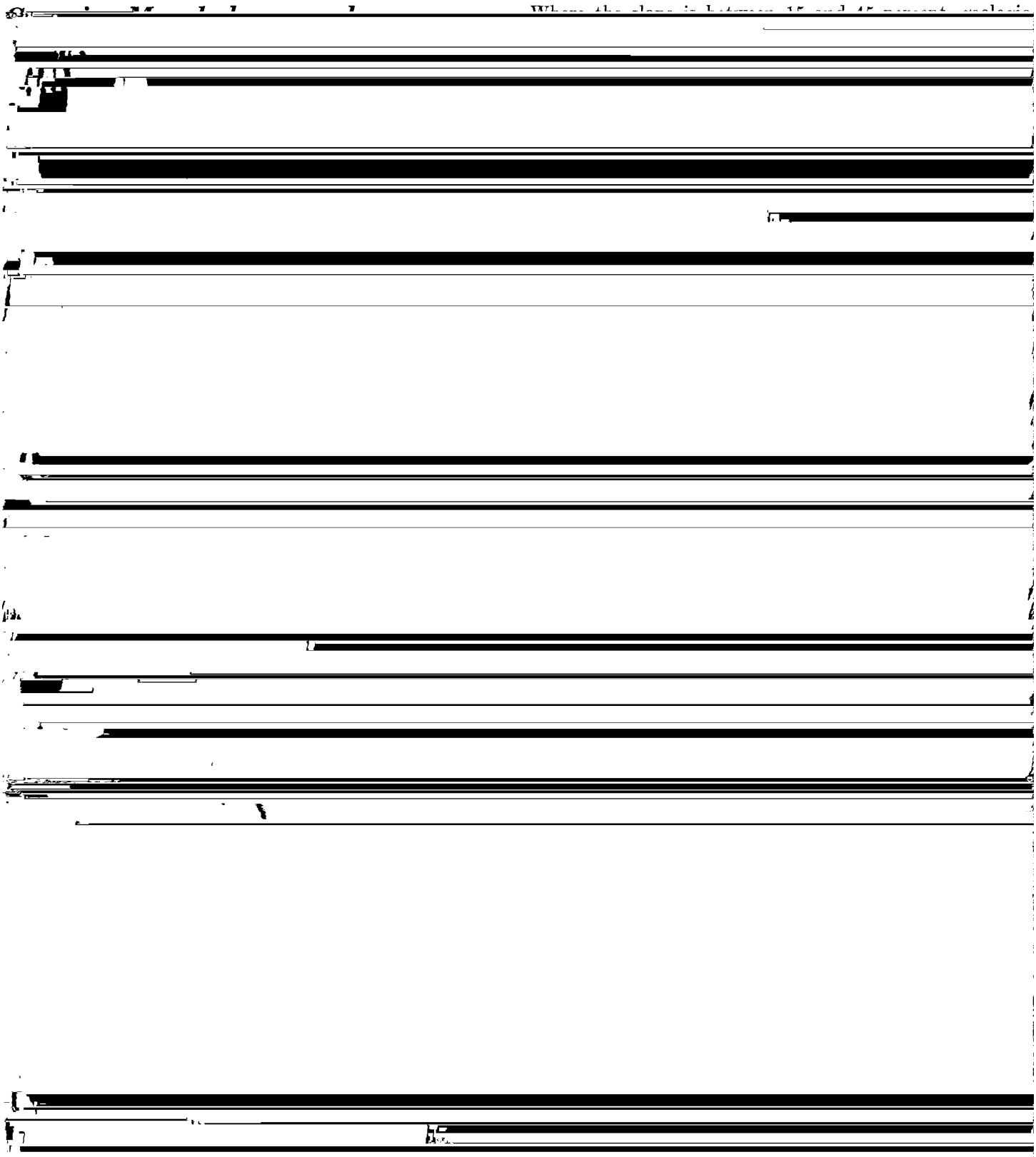
TABLE 14.—*Engineering*

Soil series and map symbols	Suitability as source of—			Soil features affecting [1]—		
	Topsoil	Sand	Road fill	Highway location	Farm ponds	
					Reservoir area	Embankment
Durham (DjA, DjB).	Good	Good in surface layer.	Good in surface layer; fair below.	Soil properties are favorable.	Soil properties are favorable.	Moderate strength and stability.
Lloyd (LdB2, LdC2, LdD2, LdE2, LeB3, LeC3, LeC4, LeD3, LeD4, LeE3, LeF3, LgE).	Fair in surface layer, except where severely eroded.	Fair in surface layer, except where severely eroded.	Fair to good	Slopes easily eroded in deep cuts; shallow to bedrock in places.	Soil properties are favorable.	Moderate strength and stability.
Local alluvial land (Lcm).	Good	Fair	Good	Seasonal high water table at a depth of about 2 feet.	Soil properties are favorable.	Moderate strength and stability.
Louisa (LjF).	Good	Poor	Fair; erodible	Slopes easily eroded.	Moderately rapid permeability; excessive seepage likely where cuts reach into parent material.	Low strength and stability.
Louisburg (LCB, LCC, LCD, LCE2, LDC, LDE, LDF).	Good, except in stony areas.	Good, except in stony areas.	Good, except where shallow to bedrock.	13 to 48 inches to bedrock.	Rapid permeability and seepage.	Moderate strength and stability; shallowness to bedrock; some areas stony.
Madison (MlB3, MlC3, MlD3, MlE3).	Poor	Unsuitable	Fair to good	Slopes easily eroded in deep cuts.	Soil properties are favorable.	Moderate strength and stability.
Wehadkee (Wea).	Poor	Unsuitable	Poor; excess moisture.	Seasonal high water table at a depth of less than 1 foot; subject to flooding.	Soil properties are favorable.	Low strength and stability; generally high moisture content.
Wickham (WgB2).	Good	Good in surface layer.	Fair to good	Slopes easily eroded in deep cuts.	Soil properties are favorable.	Moderate strength and stability.
Worsham (WmB).	Unsuitable	Unsuitable	Poor	Seasonal high water table at a depth of less than 1 foot; shallow to bedrock in places.	Soil properties are favorable.	Moderate strength and stability; high moisture content.

[1] Only detrimental or undesirable features are recorded. In instances where no undesirable features exist, the statement "Soil properties are favorable" appears in place of features.

interpretations—Continued

Soil features affecting [1]—Continued				
Agricultural drainage	Irrigation	Terraces	Waterways	Septic tank drainage fields
Drainage not needed	Soil properties are favorable.	Soil properties are favorable.	Soil properties are favorable.	Soil properties are favorable.
Drainage not needed	Slow intake rate in severely eroded areas.	Soil properties are favorable where slope is less than 10 percent; steeper slopes unsuitable.	High erodibility	Soil properties are favorable.
Drainage not needed	Soil properties are favorable.	Terraces generally not feasible; small irregular areas.	Soil properties are favorable.	Seasonal high water table at a depth of about 2 feet.
Drainage not needed	Low water-holding capacity; strong to steep slopes.	Terraces not suitable; steep slopes.	Low available water capacity; high erodibility; steep slopes.	Low water-holding capacity; 15 to 45 percent slopes.
Drainage not needed	Low water-holding capacity; shallowness to bedrock; poorly suited to agricultural use.	Terraces not suitable in stony or shallow areas, or where slope is more than 10 percent.	Low available water capacity; 13 to 48 inches to bedrock; stony throughout profile in some areas.	Low water-holding capacity; 13 to 48 inches to bedrock; 15 to 45 percent slopes in some areas.
Drainage not needed	Slow intake rate	Soil properties are favorable where slope is less than 10 percent; steeper slopes unsuitable.	High erodibility	Soil properties are favorable.
Slow permeability; seasonal high water table at a depth of less than 1 foot; needs surface and subsurface drainage.	Poor drainage; seasonal high water table at a depth of less than 1 foot; slow intake rate; slow permeability.	Terraces not needed; soil is level or nearly level.	Poor drainage; seasonal high water table at a depth of less than 1 foot.	Poor drainage; seasonal high water table at a depth of less than 1 foot; subject to flooding.
Drainage not needed	Soil properties are favorable.	Soil properties are favorable.	Soil properties are favorable.	Soil properties are favorable.
Slow permeability; seasonal high water table at a depth of less than 1 foot; needs surface and subsurface drainage; subsurface drainage difficult.	Irrigation not feasible; poor drainage; poorly suited to agricultural use.	Terraces not needed; soil is unsuitable for row crops.	Poor drainage; seasonal high water table at a depth of less than 1 foot.	Slow permeability; seasonal high water table at a depth of less than 1 foot; poor drainage.



Climate

Climate, as a genetic factor, affects the soil physically, chemically, and biologically, primarily through the influence of precipitation and temperature. Water dissolves minerals, supports biological activity, and transports mineral and organic residues through the soil profile. The amount of water that filters through the soil at a given point depends on rainfall, relative humidity, length of the frost-free period, soil permeability, and relief. Temperature influences the kinds and growth of organisms and the speed of physical and chemical reactions in the soil.

The climate of Walton County is of the humid, warm-temperate, continental type characteristic of the southeastern part of the United States. In this climate, the soils are moist much of the time from November 15 through July 31 and are moderately dry much of the time from August 1 through November 14. The surface soil is frozen to a depth of 1 to 3 inches for only a few days during the year. Table 1, on page 2, gives the average temperature and the distribution of rainfall by month.

The climate has not caused differences among the soils, because it is nearly uniform throughout the county. As can be expected in a climate of this type, most of the soils are highly weathered, leached, strongly acid to very strongly acid, and low in fertility.

Morphology and Classification of the Soils

The soil classification system used in the United States (*7*) consists of six categories. Beginning with the most inclusive, these categories are the order, the suborder,

Red-Yellow Podzolic soils

The Red-Yellow Podzolic great soil group is in the zonal order and consists of well-developed, well-drained, acid soils that have a thin organic A0 horizon and an organic-mineral A1 horizon. The A1 horizon is underlain by a light-colored, bleached A2 horizon that overlies a red, yellowish-red, or yellow, more clayey B2 horizon. The parent material is more or less siliceous. Coarse, reticulate streaks or mottles of red, brown, and light gray are characteristic of the deep horizons where the parent material is thick (*5*). Kaolinite is the dominant clay mineral. The cation-exchange capacity is low, and the percentage of base saturation is very low.

Generally, Red-Yellow Podzolic soils in Walton County have a cation-exchange capacity of less than 20 milliequivalents per 100 grams of soil and a base saturation of between 5 and 30 percent. The subsoil has a moderate, angular or subangular blocky structure and colors of high chroma. All except the Augusta and Colfax soils have a high chroma in the B2 layer.

Soils in Walton County that fit the central concept of the Red-Yellow Podzolic group, namely, Altavista, Appling, Cecil, Durham, Madison, and Wickham soils, originally had a thin, dark-colored A1 horizon and a well-defined A2 horizon. Plowing and erosion have disturbed these horizons, and now the surface layer consists of a mixture of material from the original A1 and A2 horizons, or a mixture of material from the A2 and B horizons, or material predominantly from the B horizon. In most areas that are not severely eroded, the surface layer is strongly acid to very strongly acid, granular coarse sandy loam or loamy coarse sand to sandy loam. The B2

TABLE 15.—*Classification of soils by order, great soil group, and*

Order, great soil group, and series	Brief description [1]
ZONAL ORDER	
Red-Yellow Podzolic soils—	
Central concept:	
Altavista	Light olive-brown to light yellowish-brown fine sandy loam over a thin layer of light yellowish-brown to olive-yellow sandy loam; B horizon is strong-brown to olive-yellow sandy clay loam; commonly mottled at a depth of about 18 inches.
Appling	Light brownish-gray, light olive-brown, or light yellowish-brown coarse sandy loam over yellowish-brown, friable sandy clay loam; mottled, red, yellowish-red, and olive-yellow clayey material at a depth of about 17 inches.
Cecil	Light yellowish-brown to brown coarse sandy loam grading to yellowish-red to red sandy clay to clay at a depth of about 10 inches.
Durham	Olive-gray, pale-olive, light brownish-gray to light yellowish-brown loamy coarse sand over a thin layer of light yellowish-brown coarse sandy loam; B horizon is light olive-brown to light yellowish-brown sandy clay loam in the uppermost part and sandy clay in the lower part; commonly mottled at a depth of about 23 inches.
Madison	Reddish-brown to yellowish-red sandy clay loam over dark reddish-brown, red, or dark-red, micaceous clay loam to clay.
Wickham	Yellowish-brown to dark reddish-brown fine sandy loam over yellowish-red, red, or strong-brown clay loam to sandy clay loam; commonly mottled at a depth of about 29 inches.
Grading toward Reddish-Brown Lateritic:	
Lloyd	Reddish-brown to dark reddish-brown sandy loam or stony loam that grades to reddish-brown to dark-red clay loam to clay at a depth of about 14 inches.
Grading toward Low-Humic Gley:	
Augusta	Light olive-brown to dark grayish-brown fine sandy loam over a thin layer of pale-yellow sandy loam; B horizon is mottled pale-yellow and light-gray sandy clay loam to sandy clay.
Colfax	Light yellowish-brown, yellowish-brown, light olive-brown, or light-gray sandy loam over yellow and olive sandy clay loam to sandy clay; mottled at a depth of about 12 inches.
Reddish-Brown Lateritic soils—	
Central concept:	
Davidson	Dark reddish-brown loam over dusky-red to dark-red clay loam to clay
INTRAZONAL ORDER	
Low-Humic Gley Soils—	
Central concept:	
Wehadkee	Mottled, grayish-brown silt loam over mottled gray silty clay loam
Worsham	Mottled sandy loam, coarse sandy loam, or silt loam over mottled light-gray sandy clay loam to clay.
AZONAL ORDER	
Alluvial soils—	
Grading toward Low-Humic Gley:	
Chewacla	Brown to reddish-brown silt loam over mottled gray silt loam or silty clay loam
Lithosols—	

series; brief description of soils; and significant characteristics of soils

Position	Drainage class	Slope range	Parent material	Degree of profile development [2]
		Percent		
Low stream terraces	Moderately well drained	2 to 6	Old alluvium	Medium.
Upland slopes and ridges	Well drained	0 to 15	Material weathered from granite, gneiss, and coarse-grained schist.	Strong.
Upland slopes and ridges	Well drained	2 to 25	Material weathered from gneiss, gneissoid schist, mica schist, and granite.	Strong.
Upland slopes and ridges	Well drained	0 to 6	Material weathered from granite and coarse-grained gneiss.	Strong.
Upland slopes and ridges	Well drained	2 to 25	Material weathered from quartz mica schist, mica schist, and granite gneiss.	Strong.
Stream terraces	Well drained	2 to 6	Old alluvium	Strong.
Upland slopes and ridges	Well drained	2 to 45	Material weathered from diorite, granite, gneiss, and schist.	Strong.
Low stream terraces	Somewhat poorly drained	0 to 2	Old alluvium	Medium.
Around the head of drainageways, in depressions, and at the base of slopes.	Somewhat poorly drained	2 to 10	Material weathered from light-colored granite and gneiss.	Medium.
Upland slopes and ridges	Well drained	2 to 15	Material weathered from diorite and other basic rocks.	Strong.
First bottoms	Poorly drained	0 to 2	Recent alluvium	Weak.
Near the head of drainageways, in depressions, and at the base of slopes.	Poorly drained	2 to 6	Material weathered from light-colored granite and gneiss.	Medium.
First bottoms	Somewhat poorly drained	0 to 2	Recent alluvium	Weak.
Upland slopes	Somewhat excessively drained	15 to 45	Material weathered from mica schist and mica gneiss.	Weak.
Upland slopes and ridges	Somewhat excessively drained	2 to 45	Material weathered from granite and gneiss, and, to a limited extent, quartzite.	Weak.

[2] The degree of profile development is measured by the number of important genetic horizons and the degree of contrast between them.

itic soils. In color, structure, and clay content, the subsoil is like that of the reddest of Red-Yellow Podzolic soils; the color is identical to that of the subsoil of Reddish-Brown Lateritic soils. The parent material of Lloyd soils is less micaceous than that of Red-Yellow Podzolic soils in general.

Augusta and Colfax soils belong to the Red-Yellow Podzolic group but have some characteristics of Low-Humic Gley soils. The B horizon of Colfax soils is mottled—the upper part is predominantly yellow with a few red mottles; the B22g is predominantly pale olive with light-gray, pale-red, and yellowish-brown mottles;

B1—8 to 17 inches, yellowish-brown (10YR 5/8) sandy clay loam; weak, medium, subangular blocky structure; friable; very strongly acid; clear, smooth boundary.

B2—17 to 30 inches, mottled red (2.5YR 4/6), yellowish-red (5YR 4/8), and olive-yellow (2.5Y 6/6) clay; moderate, medium, subangular blocky structure; firm; very strongly acid; clear, wavy boundary.

B3—30 to 36 inches, mottled yellowish-red (5YR 4/8) and olive-yellow (2.5Y 6/6) heavy sandy clay loam; moderate, medium, subangular blocky structure; firm; very strongly acid; clear, wavy boundary.

C—36 to 42 inches +, mottled yellowish-red (5YR 4/8) and olive-yellow (2.5Y 6/6) sandy clay loam; structureless; friable; extremely acid.

Cecil coarse sandy loam, 2 to 6 percent slopes, eroded. 25

B3—22 to 30 inches, red (2.5YR 4/6) silty clay loam; moderate, medium, subangular blocky structure; firm; numerous small schist fragments; many fine mica flakes; greasy feel when rubbed; very strongly acid; clear, wavy boundary.

C—30 to 77 inches +, dusty-red and red, partly weathered mica schist.

Wickham fine sandy loam, 2 to 6 percent slopes, eroded, 200 yards east of Alcovy River, ¼ mile south of Alcovy Mountain:

Ap—0 to 6 inches, yellowish-brown (10YR 5/4 to 5/6) fine sandy loam; weak, fine, granular structure; slightly hard when dry; many fine roots; very strongly acid; clear, smooth boundary.

B21—6 to 15 inches, yellowish-red (5YR 4/8 to 5/8) sandy clay loam; weak, medium, subangular blocky structure; friable when moist; many fine roots; very strongly acid; clear, smooth boundary.

B22—15 to 26 inches, yellowish-red (5YR 5/6 to 5/8) sandy

C—34 to 44 inches +, white (5Y 8/2) sandy clay; few, fine, faint, pale-yellow (5Y 7/3) mottles; massive; firm; very strongly acid.

Colfax sandy loam, 2 to 6 percent slopes, 25 feet south of farm road, 0.5 mile east of its junction with State Route 11, 2 miles south of Monroe:

Ap—0 to 8 inches, light yellowish-brown (2.5Y 6/4) to light olive-brown (2.5Y 5/4) sandy loam; weak, fine, granular structure; nonsticky when wet; many fine and medium roots; few small pebbles; very strongly acid; clear, wavy boundary.

B1—8 to 12 inches, yellow (2.5Y 7/6) and olive (5Y 5/3) sandy clay loam; weak, fine, subangular blocky structure; slightly sticky when wet; many small pebbles; very strongly acid; clear, wavy boundary.

B21—12 to 18 inches, yellow (2.5Y 7/6) sandy clay; few, fine, prominent, red (10R 5/6) mottles; moderate, medium, subangular blocky structure; slightly plastic to plastic when wet; very strongly acid; gradual, wavy bound-

a thin surface horizon, moderately high in organic-matter content, over a mottled gray and brown, gleylike, mineral horizon that is little different from the surface horizon in texture (*5*). In Walton County, the Low-Humic Gley group is represented by Wehadkee and Worsham soils, which fit the central concept of the group. The reaction of these soils is medium acid to very strongly acid, and the percentage of base saturation is low. The upper horizons are weak in structure, and the lower horizons are structureless.

Only one Wehadkee soil is mapped in this county. It

Alluvial soils

Alluvial soils are in the azonal order. They developed from transported and recently deposited material (alluvium) that has been modified little or not at all by the soil-forming process.

No soils in Walton County fit the central concept of this great soil group. Chewacla soils are Alluvial soils, but they have some characteristics of Low-Humic Gley soils. They are immature, somewhat poorly drained soils on first bottoms that are subject to flooding. The upper-

[redacted]

TABLE 16.—*Acreage of principal crops and number of bearing fruit and nut trees in stated years*

Crop	1949	1954	1959
	Acres	*Acres*	*Acres*
Corn for all purposes	20, 841	15, 365	9, 104
Cotton, harvested	36, 650	21, 641	13, 459
Oats, threshed	4, 090	6, 019	2, 277
Wheat, threshed	1, 974	2, 320	1, 434
Hay crops [1]	8, 517	8, 614	5, 511
	Number [2]	*Number*	*Number*
Apple trees of all ages	7, 639	1, 652	1, 080
Peach trees of all ages	16, 765	4, 578	2, 574
Pear trees of all ages	1, 406	388	230
Pecan trees of all ages	5, 993	3, 413	3, 550

[1] Excluding sorghum, soybean, cowpea, and peanut hay.
[2] The census year is one year later than crop year given at head of column.

TABLE 17.—*Livestock of all ages in stated years*

Livestock	1950	1954	1959
	Number	*Numuer*	*Number*
Horses and mules	2, 977	1, 531	632
Cattle and calves	9, 332	14, 099	12, 870
Hogs and pigs	5, 446	5, 009	6, 173
Chickens [1]	54, 484	65, 800	98, 537
Chickens, including broilers sold	[2] 381, 626	543, 861	1, 422, 936

[1] Four months old and over.
[2] In 1949.

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Glossary

Alluvium (Alluvial deposits). Soil material, such as sand, silt, or clay, deposited on land by streams.

Available moisture capacity. The capacity of a soil to hold water in a form available to plants. Amount of moisture held in soil between field capacity, or about one-third atmosphere of tension, and the wilting coefficient, or about 15 atmospheres of tension.

B horizon. A soil layer, usually beneath the A horizon or surface soil, characterized by (1) clay, iron, or aluminum, with accessory organic matter, which has accumulated by receiving suspended material from the A horizon or by clay development in place; or (2) blocky or prismatic structure; or (3) some combination of these features. In soils with distinct profiles, the B horizon is also referred to as the subsoil. See Horizon, soil.

Bedrock. The solid rock that underlies soils and other surface formations.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter (0.000079 inch) in diameter. As a textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Concretions. Hard grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrations of compounds, or of soil grains cemented together. The composition of some concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are examples of material commonly found in concretions.

Consistence, soil. The feel of the soil material and the ease with which a lump can be crushed by the fingers. Terms used to describe consistence are—

Friable. When moist, crushes easily by hand and coheres when pressed together. Friable soils are generally easily tilled.

Firm. When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable. Firm soils are likely to be difficult to till.

Hard. When dry, moderately resistant to pressure; can be broken in the hands without difficulty but is barely breakable between thumb and forefinger.

Loose. Noncoherent when moist or dry; will not hold together [illegible]

Flood plain. Nearly level land, consisting of stream sediments, that borders a stream and is subject to flooding unless protected artificially.

Horizon, soil. A layer of soil, approximately parallel to the surface, that has distinct characteristics produced by soil-forming processes.

Igneous rock. Rock that has been formed by the cooling of molten mineral material, such as granite, syenite, diorite, and gabbro.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. It may be limited either by the infiltration capacity of the soil or by the rate at which water is applied to the soil surface.

Metamorphic rock. Rock of any origin that has been greatly altered or completely changed physically by heat, pressure, and moisture. Igneous and sedimentary rocks may be changed to metamorphic rock, or one kind of metamorphic rock may be changed to another kind. Gneiss, schist, and slate are examples of metamorphic rock.

Mottled. Irregularly marked with spots of different colors that vary in number and size.

Parent material (soil). The unconsolidated mass of rock material (or peat) from which soil has formed.

Parent rock (soil). The rock from which the parent material of soil was derived.

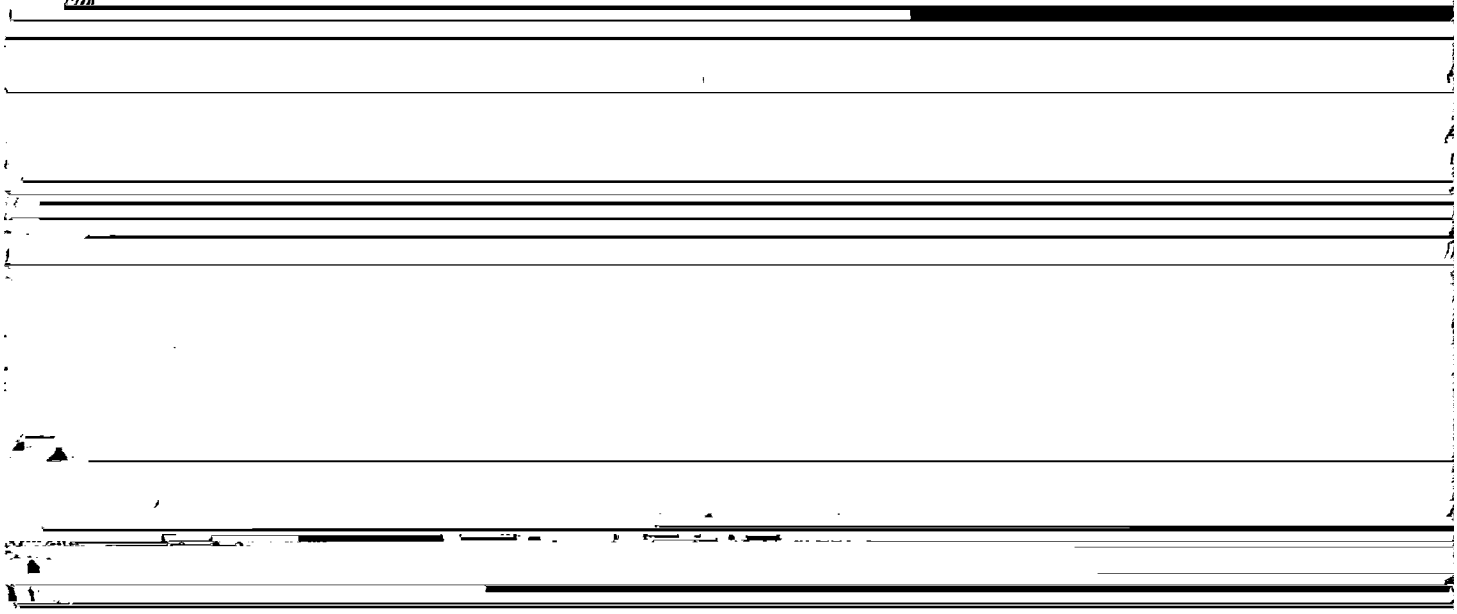
Permeability, soil. That quality of a soil horizon that enables water and air to move through it. Terms used to describe permeability are—*very slow, slow, moderately slow, moderate, moderately rapid, rapid,* and *very rapid.*

Soil. The natural medium for growth of land plants; a natural three-dimensional body on the earth's surface that has properties resulting from the integrated effects of climate and living matter acting upon parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles, less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows: *Very coarse sand* (2.0 to 1.0 millimeter); *coarse sand* (1.0 to 0.5 millimeter); *medium sand* (0.5 to 0.25 millimeter); *fine sand* (0.25 to 0.10 millimeter); *very fine sand* (0.10 to 0.05 millimeter); *silt* (0.05 to 0.002 millimeter); and *clay* (less than 0.002 millimeter).

Solum. The upper part of a soil profile, above the parent material, in which the processes of soil formation are active. The solum in mature soil includes the A and B horizons. Usually, the characteristics of the material in these horizons are unlike those of the underlying parent material. The living roots and other plant and animal life characteristic of the soil are largely confined to the solum.

Structure, soil. The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated primary soil particles. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular. Structureless* soils are (1) *single grain* (each grain by itself, as in dune sand) or (2) *massive* (the particles adhering



GUIDE TO MAPPING UNITS

[See table 6, page 7, for the approximate acreage and proportionate extent of the soils; table 7, page 34, for estimated average acre yields; tables 12, 13, and 14, on pages 46, 50, and 56, for information significant to soil engineering]

Map symbol	Mapping unit	Page	Capability unit		Woodland group		Wildlife group	
			Symbol	Page	Number	Page	Number	Page
Afs	Augusta fine sandy loam	11	IIIw-3	28	8	40	8	44
AkB	Altavista fine sandy loam, 2 to 6 percent slopes	9	IIe-2	24	3	38	1	41
Alm	Alluvial land	8	IIw-2	25	1	37	7	44
Alp	Alluvial land, moderately wet	8	IIIw-2	28	8	40	8	44
AnB3	Appling sandy clay loam, 2 to 6 percent slopes, severely eroded	10	IIIe-2	26	4	39	3	42
AnC3	Appling sandy clay loam, 6 to 10 percent slopes, severely eroded	10	IVe-1	28	4	39	3	42
AnD3	Appling sandy clay loam, 10 to 15 percent slopes, severely eroded	11	VIe-2	30	4	39	4	43
Avp	Alluvial land, wet	8	IVw-1	30	8	40	9	44
AxA	Appling coarse sandy loam, 0 to 2 percent slopes	10	IIs-1	25	5	39	1	41
AxB	Appling coarse sandy loam, 2 to 6 percent slopes	10	IIe-2	24	5	39	1	41
AxB2	Appling coarse sandy loam, 2 to 6 percent slopes, eroded	9	IIe-2	25	5	39	1	41
AxC2	Appling coarse sandy loam, 6 to 10 percent slopes, eroded	10	IIIe-2	26	5	39	1	41
AxD2	Appling coarse sandy loam, 10 to 15 percent slopes, eroded	10	IVe-1	28	5	39	2	41